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ABSTRACT

Intended as an aid to those involved in State level planning for occupational education, this report (1) identifies the different legal, organizational, and financial constraints which directly affect the process and product of planning for occupational education; (2) determines the effect which different mixes of State and local responsibilities for planning have on the process and product of planning for occupational education; and (3) identifies specific instances (i.e., State and local planning agencies, policies, etc.) where alternative planning environments exist and where alternative policy models have been implemented. (The report is based on a questionnaire/telephone interview investigation of how planning for occupational education is conducted at the State and local levels in a sample of 14 States whose policies and procedures provided examples of all significant alternatives with regard to funding policies, organizational relationships, and legislation.) Chapter 1 is a discussion of the problems of planning from the standpoint of the need for the State and local agencies to share planning responsibilities. Chapter 2 demonstrates the interrelatedness which exists between planning activities and the environment in which they take place, focusing on the many "givens" in educational systems which significantly affect the kinds of planning which can be done and pointing out that changes in these "givens" may have to be accomplished before the intended planning practices may be implemented. Chapters 3 through 7 present in-depth discussion of the effect which alternative policies and environmental conditions have on the process of planning and delivering occupational education. (HD)

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STATE AND LOCAL RESPONSIBILITIES FOR PLANNING OCCUPATIONAL EDUCATION

A study of the effect of alternative allocations of responsibilities on the process of planning

a report prepared for
the
CENTER FOR OCCUPATIONAL EDUCATION
NORTH CAROLINA STATE UNIVERSITY
and
EDUCATIONAL FACILITIES LABORATORIES, INC.

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INTRODUCTION

PROBLEM

One of the most significant features of the 1968 Amendments to the Vocational Education Act (VEA) of 1963 was the initiation of the requirement for each state to develop an annual "State Plan" for occupational education. In the five years since the passage of the Amendments, the format and data requirements of the State Plan have undergone almost annual modification as the Bureau of Vocational Technical Education (USOE) has improved its own planning requirements. However, the basic objective of requiring State and Local Occupational Education Agencies to engage in meaningful planning has remained constant.

The degree to which the intent of this requirement, and the degree to which "planning" has resulted in improved decision-making and improved educational programs is, however, questionable. The concerns which arise in this context are directed at two major issues:

1) the quality of planning (as judged in the technical sense);
2) the impact which planning (of whatever technical quality) has on the educational delivery system.

This study was initiated to provide some insight into the problems related to these issues through an investigation of how planning for occupational education is conducted at the state and local levels. Originally it was the objective of this study to identify the specific procedures used in gathering and processing data and making educational decisions at these two basic educational levels, and to determine the effect which such practices have on the actual delivery of educational services. On the basis of this study, we had expected to be able to make some specific statements about problems facing planners and some of the steps which could be taken to alleviate them. However, as this study progressed, it became apparent that the most significant problems facing planners were not those which related to the technical problems of planning - i.e., data gathering and evaluating, and decision-making. It was not a lack of knowledge about how planning should be done which has inhibited planning, but rather, it appears that in most states the limiting factors are:

1) the ambiguity - or, at least, lack of precise definition - of the intent of planning and the assignment of responsibilities for various components of the planning process; and
2) problems stemming from context in which planning takes place - i.e., laws which provide varying levels of autonomy to local education agencies and funding regulations, etc., which affect the degree to which the State Agency may effect and control local programs.

Based on this observation, we concluded that the most significant problem was not found in the question "how is planning conducted," but rather "what environmental considerations - i.e., legal, fiscal, organizational, etc. - affect the planning process and how do these conditions act to promote or inhibit the attainment of specific objectives or implementation of specific planning procedures?"

PURPOSE OF THIS REPORT

It is one thing to plan a course of action to achieve specific goals. It is quite another to implement that plan and see the goals realized.

No plan of action, no matter how well conceived technically, will be successful unless it recognizes the constraints imposed by the system in which it is intended to operate. For example, planning methods which work in a state where occupational education programs are provided in separate regional schools having direct ties to the State Agency may not be feasible if occupational education programs are under the direct responsibility of the local superintendent responsible only to the State Commissioner for Education. Similarly, programs whose need is identified by the State Agency and suggested to the local agency have a greater chance of being implemented in a state where local operating funds require annual approval by the State Agency than where state funds are transferred to the local agency under a fixed legislated formula.

These are only some of the areas in which environment affects the kind of planning which can take place and the success which is likely to come from the planning process. These and similar problems exist in all states and will affect the conduct of planning at all levels. However, rather than ignoring the responsibility for planning on the basis that, as one State Director put it, "local units have autonomy in that area and it doesn't make any sense for us to try to plan that way," those responsible for planning need to understand (a) what environmental conditions affect planning - so that they may identify these conditions as they exist in their state, and (b) how alternative conditions affect the planning process - so that they may either develop planning strategies consistent with existing conditions or seek to create conditions which would be compatible with their desired planning strategies. This report is intended to respond to these needs by:

1) identifying the different legal, organizational, and financial constraints which directly affect the process and product of planning for occupational education;
2) determining the effect which different mixes of state and local responsibilities for planning have on the process and product of planning for occupational education; and
3) identifying specific instances (i.e., state and local planning agencies, policies, etc.) where alternative planning environments exist and where alternative policy models have been implemented.

PROCEDURES

When the study was initiated, it was recognized that different goals, organizational relationships, and legislation providing for occupational education all affected the type of planning which both should and could be carried out by the state and local education agencies. It was initially hoped that there would be a few general organizational/planning/funding models which could be identified and into which the majority of the states could be fit. This would then permit the comparison of subtle differences between states within each model and large differences between models.

It was hypothesized that the major variables which would distinguish models would be:

1) policies for funding (a) new construction, and (b) program operation;
2) the nature of organizational relationships which exist between local occupational and general education

agencies and the local and State Agencies for occupational education; and

3) legislation which provided for the creation of occupational education districts.

Initially, we had intended to do a preliminary review of all states to identify the differentiating parameters within each of these variables and, on the basis of this data, formulate not more than five basic models which might be evaluated through in-depth studies of two or three states representative of each model. It soon became apparent, however, that there were too many alternatives within each general class of variable to be represented by a few general models. Therefore, we abandoned our plan to compare alternative models and chose, instead, to compare alternative approaches to each variable.

Recognizing both budget and time limitations, we arbitrarily chose to limit our survey to 12 to 15 sample states which provided examples of the full spectrum of alternatives within each category. Since we did not initially know how many distinct alternatives existed within each category, we adopted a heuristic approach to this survey by first identifying six states which, on the basis of our prior knowledge, represent distinctly different examples of policies in one or more categories. Then, by analyzing these states' policies on the other variables and by discussing our problem with the State Directors in these first states, we sought to fill in the other categories and identify states where examples of these policies were found. Through this procedure, we ultimately identified 14 states whose policies and procedures provided examples of all significant alternatives within each category. These states were Alabama, California, Connecticut, Florida, Kansas, Kentucky, Massachusetts, Michigan, Minnesota, New York, North Carolina, Pennsylvania, Ohio and Utah.

Data on the policies and procedures which existed in each state were secured through the use of open-ended questionnaires completed through telephone interviews (averaging about one hour) with the State Director (or someone designated by the State Director) in each state.

DISCUSSION OF PROCEDURES AND FINDINGS

The use of the open-ended discussion type questionnaire and the telephone interview turned out to be a fortuitous choice, since it was only through discussions of the occupational education system taken as a whole that it became apparent that the individual parts of the total system - i.e., funding provisions, administrative provisions for sharing planning responsibilities, etc. - did not generally fit together to provide a completely integrated planning system.

Further, it was only through these discussions that it became apparent that most of the State Directors were able to identify their inability to implement many planning procedures for which they recognized a need simply because existing legislation and custom did not accommodate the system they felt was required. However, it was interesting and significant to note that the State Directors contacted in the course of this study did not seem to feel that the systems which existed in their states were necessarily counterproductive. The systems simply did not provide for the kind of planning most Directors felt they would like to see. Therefore, while there would appear to be general support for the contention that the educational environment inhibits some kinds of planning, it is not clear that the State Directors recognize the existence of any major problems stemming from the current system.

Given the present goals and practices, there may be no problems. But a major observation of this study was that current goals and procedures are more the result of the conditions of the environment, rather than the planning environment being the result of an effort to create conditions needed to achieve specific goals and implement specific procedures. Further, it appears that most current legislation and funding policies, etc., are designed to maximize the autonomy of the local education agency.

This condition is, however, inconsistent with our belief that the demands for the development of new programs in occupational education are going to require increasing leadership at the state level. Since any change in legislation or funding policy will also (likely) be initiated at the State Agency level, it is incumbent that the State Director be able to formulate and dictate the structure of the planning environment. The contention that the State Agency has final responsibility for program planning is central to this report, as it is largely from the perspective of the State Director that the issues presented in this report are viewed.

OVERVIEW OF REPORT

This report is presented in two parts.

In Part I, Chapters 1 and 2, we present an overview of the requirements for planning.

Chapter 1 is a discussion of the problems of planning from the standpoint of the need for the state and local agencies to share planning responsibilities.

Chapter 2 is a discussion of the planning problem itself. This chapter is intended to demonstrate the interrelatedness which exists between planning activities and the environment in which they take place. More specifically, this chapter is intended to show planners that there are many "givens" in educational systems which significantly affect the kinds of planning which can be done and that changes in these "givens" may have to be accomplished before the intended planning practices may be implemented.

Part II, Chapters 3 through 7, presents in-depth discussion of the effect which alternative policies and environmental conditions have on the process of planning and delivering occupational education.

PART I

ALLOCATION OF PLANNING RESPONSIBILITIES

1: STATE AGENCY PLANNING RESPONSIBILITIES

Both the intent of existing federal legislation and the legal structure of most state education systems clearly suggest that the responsibility for planning and delivery of programs in occupational education must be shared between the State Agency and the local agencies for occupational education. However, in most states the nature of the sharing of this responsibility remains clouded and ambiguous because of the failure of the planners to understand the nature of the planning process and its implications for assigning responsibility.

But the problem of sharing the responsibility for planning goes far beyond the role of planning in the educational process per se, and requires an analysis of the characteristics of the planning process in general. Therefore, before we can begin to interpret the characteristics of the planning process and how they affect the allocation of planning responsibilities, we must understand where "planning" fits in to the total educational system and how it lends itself to a sharing of responsibilities. &

PLANNING VS. DELIVERY OF EDUCATION

The first concept to understand in designing a system of shared educational responsibilities is that there is a difference between the "planning" and "delivery" of educational services. Since the local agency bears the responsibility for the actual delivery of occupational education programs, we have traditionally accepted the idea that it is this agency which should bear the responsibility for program planning. In fact, there is little to support this contention and there is little evidence to suggest that such an approach results in the most effective planning or results in the most efficient allocation of planning resources.

Beyond this differentiation between planning and delivery, it is possible to consider "planning" in terms of two additional sub-categories - objective planning and program planning. In the context of this discussion, "objective planning" refers to determining what needs exist which must be met through the educational program, while "program planning" refers to the development of courses and instructional methodologies by which objectives are met. This distinction is critical, for it allows for a system in which a significant element of planning - namely, program planning - can remain an exclusively local function while other elements of the planning process may effectively be transferred to other agencies - either the State Agency itself or other regional coordinating units. However, this is not to imply that any component of the planning process must be transferred out of the local agency. A determination of who should conduct which elements of the planning process should be a function of the kinds of goals which are to be achieved by the educational system and the limitations imposed by political, economic and legal constraints existing within the system (as will be discussed in following sections). But there are specific differentiations which may be drawn between components of the total educational process, and these must be recognized in formulating the most effective planning scheme.

When all planning is conducted by a single agency, this agency frequently fails to differentiate between the major elements of planning. As a result, it blends the two processes - objective planning and program planning - and ends up limiting the scope of its planning activities by planning only for those functions which can be accomplished rather than engaging in a separate process of first identifying what must be done and then evaluating the feasibility of accomplishing all necessary goals.

This is particularly true when all planning occurs within the local agency, for one of the problems which must be recognized is that local constraints - both political constraints and local customs - may represent a priori limitations on the degree to which local planning programs represent responses to broader needs.

There is evidence(1) that in most states, the mechanism for a sharing of responsibility has not developed in such a way as to maximize the contribution of both agencies to the total planning process. Specifically, State Agency and local agency responsibilities are often not shared in such a way as to provide either party with the kinds of information most appropriate for the decisions which it is expected to make. It is also common to find that neither the State Agency nor the local agency directors have a clear perception or mutual understanding of the relationship between them and the roles which each is expected to fulfill in the development of a total system of occupational education.

Part of the problem may be traced to the way in which programs in occupational education have been developed over the years and to the conflicts which have arisen between the older systems, policies, and practices; and the requirements of new federal legislation under which many of the current programs in occupational education have been stimulated. In many areas of planning, this conflict has resulted in new policies and legislation which are found to be inconsistent with practices established under the older order.

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(1) Woodruff, A.P. and Barghart, F. The Process of Planning For Occupational Education (Report Draft), Center for Occupational Education, North Carolina State University, Raleigh, North Carolina, 1973.

Frequently, the conflicts arise when the State Agency, recognizing the inadequacy of existing policies and seeking to make all programs more responsive to current needs, attempts to make the state the dominant partner in the planning process. However, the problem is no less severe when the state chooses to shift the major burden for planning to the local agency - thus making the local agency the senior partner - because legislation relative to the funding of construction and program maintenance often fails to support the goals which the State Agency may have set in implementing such a policy.

It is becoming increasingly apparent that this ambiguity surrounding the responsibilities and obligations of both the State Agency and local agencies for program planning represent a severe constraint in the capability of the State Agency to fulfill the requirements imposed on it by the federal government. It is our conclusion that this ambiguity can best be clarified - and the interests of occupational education can be best served - by a strengthening of the role of the State Agency and a clarification of its responsibilities as the agency having final responsibility for educational programs within the state. The remainder of this chapter reviews the conditions which have led us to this conclusion and discusses the relationship which should exist between the State Agency and local agencies responsible for occupational education.

Responsibilities for Planning

Constitutionally, any function not specifically assigned to the federal government remains the right and responsibility of the state. One of the responsibilities thus left to the state is the responsibility for education. It follows then that it is the State Education Agency which ultimately is responsible for the planning and delivery of educational programs within each state. This, of course, is not to say that the State Agency must actually plan and deliver all educational programs. Rather it implies that it is the State Agency that has the responsibility for seeing to it that these activities are adequately carried out.

In almost all states the responsibility for the delivery of educational programs has been expressly assigned to the local education agencies. However, it is only by association that the responsibility for the planning of educational programs has also been shifted to the local agency. Or, more accurately, until very recently no real planning (in the complete, technical sense of the word) took place, and what little "planning" occurred existed only because local agencies had to engage in some basic level of planning simply to continue operating.

In general education, few problems have arisen as a result of the absence of state-level planning because there have been no mandates, such as those imposed by federal legislation, which require the state to establish any type of statewide educational program objectives which would require the introduction of any planning practices not generally engaged in by individual communities. In the case of occupational education, however, both the federal legislation and federal guidelines for the development of state plans specifically call for the development of policies and implementation of practices which do affect the way programs are planned and offered. Specifically, the Vocational Education Act of 1963 requires that programs offered in occupational education shall:

1) ...take account of the educational and training resources available in the area to be served;

2) ...provide assurances of adequate planning to meet the vocational education needs of potential students in the area to be served;

3) ...include a plan related to the appropriate Comprehensive Area Manpower Plan (CAMPS) for meeting the vocational education needs of the area; and

4) ...indicate how and to what extent the vocational education programs, services and activities proposed will meet the needs set forth in paragraph 2.

Moreover, the U. S. Office of Education(2) has identified the following as the primary functions of State Agency planning.

1. "Analysis of manpower needs and job opportunities in the State to provide the basis for vocational education programming in the State and to assure a match between the programs and the labor market.

2. "Analysis of the availability of vocational education in the State. This involves identification of specific economically depressed areas, areas in which there is high unemployment, areas in which there is high school dropout rate, and areas of the greatest population density.

3. "Analysis of the State's population with respect to vocational education needs. This involves analysis of population, both current and projected, characteristics relevant to vocational education planning, population by secondary school age, post-secondary and adult age, physical and mental handicapped, disadvantaged, etc.

4. "Vocational education program needs. This involves the examination of the three foregoing areas of analysis to determine the priorities for vocational education in the States. Priorities are stated in terms of target groups and target areas to be served, and in terms of employment needs and labor market demands within the State.

5. "Vocational education objectives. In addition, and consistent with the program need priorities, vocational education objectives are stated in terms of levels, program areas, numbers and types of students who will be enrolled and who will complete programs one and five years into the future. For example, service objectives will be spelled out for secondary, post-secondary and adults, disadvantaged and handicapped, residential schools, consumer education, cooperative education and work study - each of which are provided for under separate categories of the Act.

6. "Analysis of the State's vocational education program. This includes a breakdown of program enrollment, num-

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(2) Albert, James, Report of the Vocational Education Task Force, USOE, 1970.

> bers and types of vocational education schools, construction projects, numbers of teachers and teacher training enrollments, and estimates of the total funds needed for programs as planned for the following five years."

These task statements clearly assign to the State Agency the roles of

a) data gathering and evaluation;

b) planning for allocation of resources according to the objectives of the federal legislation; and

c) providing leadership and master planning for the development of vocational education within the state.

However, the ability of most State Agencies to adequately fulfill these requirements has been constrained by two factors.(3)

First, the development of occupational education programs has historically been almost entirely the result of community initiative. Therefore, the local education agencies have traditionally taken upon themselves the responsibility for planning the programs to be offered in their schools. Since the State Agencies have not been in a position to require that planning be carried out in a systematic fashion, nor have they been in a position to provide the technical and economic support which is essential to carry out good planning, planning by the local agencies is often found to be dominated by local political influences and is largely devoid of the basic planning data which would be required to fulfill the obligations imposed on the State Agency as identified above.

Secondly, state-level master planning, especially that which relates to the allocation of limited state and federal resources, requires a constant flow of data relative to program needs, student enrollments, and economic characteristics of regions being served. However, large-scale planning at the local level is generally a one-time effort engaged in only when a new facility is being planned. Thus, local agencies generally are not able to provide the State Agency with appropriate planning data on an ongoing basis. This condition severely constrains the capability of the State Agency to engage in its required planning since, under a system of master planning, the state would be expected to prepare plans for programs which must be offered by local agencies in response to goals more global in nature than those identified by local planners alone. But as long as the State Agency remains dependent on the local agencies for their planning data, there is very little basis on which the State Agency can provide the leadership through statewide definition of goals.

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(3) The general comments on the present status of local and state level planning are summarized from a "state-of-the-art" survey reported in reference (1).

Each of these problems suggests the need for an expansion of the role of the State Agency in the planning process. There are, however, three additional factors which suggest the need for a clarification of the role of the State Agency as the agency responsible for the planning process.

First, it seems apparent that we can no longer view education as a service in its own right. Rather, we must view education in general - and occupational education in particular - as part of a total system of human resource and manpower development. If occupational education is to take its place in the total scheme of human resource and manpower development, the major effort toward planning the statewide system of occupational education must take place at a level at which programs and plans for occupational education may be correlated with the activities of other agencies responsible for similar programs. This statement applies not only to the need to correlate the educational services offered by different levels: i.e., secondary, community college, etc., but also the need to correlate the use of facilities and the development of programs in response to manpower development programs. Job Corps, Neighborhood Youth Corps and other programs which focus on the employment needs of the citizens of the state.

Secondly, it seems apparent that it is only at the level of the State Agency that continuous comprehensive development of basic planning data can be efficiently accomplished. This contention is based on two observations. First, few local education agencies have the resources to conduct continuous evaluations of manpower requirements of the regions they are serving (and the state as a whole if they are, in fact, training students for the areas to which they will migrate) and to provide continuing planning servicds to the local education agency. And secondly, in many states, not all communities within the state are served by existing programs in occupational education. Therefore, for these communities there is no good data available on manpower projections, students needs, etc., and there is no local agency responsible for gathering and processing this data. However, this data is required by the State Agency to adequately fulfill the leadership role required of it under federal legislation.

The third need for a clarification of the State Agency's role in planning is based on evidence(1) which suggests that the trend in thinking, if not in practice, is for the development of a system of statewide master planning and the development of a statewide system of occupational education. Since effective planning and the implementation of new programs cannot proceed from the bottom up (i.e., a compilation of local plans by the State Agency to create a state master plan), it is apparent that planning should be initiated at the highest feasible point. While there are many arguments which could be made for planning on the basis of geographic units other than the state (i.e., planning on the basis of economic growth centers), the practical limitations based on taxation, funding, and legal controls suggests that it is at the level of the State Occupational Education Agency where planning should be centered.

The contention that the State Agency should have the dominant voice in the planning process is not intended to suggest that the Atate Agency should be placed in a position to dictate to the local agencies the programs and instructional methods which should be incorporated into their educational system. Rather it is to clarify the assignment of responsibility for the conduct of the planning process and to assure that the State Agency is provided with the kinds of data and planning capabilities required to fulfill its legislated and operationally defined functions. As previously suggested, this contention does not necessarily imply that the State Agency itself must perform the critical intermediate elements of deriving and analyzing planning data - since these responsibilities can be transferred to the local education agency. But if such a transfer is to be effected, the parameters must be made clear to all concerned and there must be a means of control to assure that local agencies do plan as required to (a) support the planning responsibilities of the State Agency and (b) meet the goals established by the State Agency.

Further, such a practice of assigning final responsibility for program planning to the State Agency is not intended to suggest that the local agency is removed from the responsibility for program planning. Rather, it is intended only as the first step in clarifying the nature of the planning process and in separating the tasks of objective planning (which is essentially assigned to the State Agency) and program planning (which should logically be a responsibility borne by the local agencies).

One of the requirements of the VEA Amendments is that each state shall develop guidelines for occupational education planning which local agencies must use in their planning. Some states have already recognized that the information required for program planning at the local agencies and State Agencies are significantly different, and have developed their guidelines for local agency planning based on a recognition that local planning is much more operationally oriented than that conducted by the state. While the nature of this local planning task will vary from state to state as the State Agency chooses to assign greater autonomy to the local agencies, the following nine points have frequently been cited as the prime planning responsibilities to be undertaken by the local education agencies.

1. Basic philosophy and major objectives of the school district.
2. An analytical presentation of needs, interests and abilities of all students to be served.
3. An analytical presentation of community needs and opportunities including projections for future needs.
4. The education and guidance programs currently operating in the district and those which will be needed in the future.
5. The data and additional staff and other resources needed for implementation of a program; i.e., research, new curriculum development, new guidance services, placement and follow-up programs, organizational changes, etc.
6. Strategy for community involvement.
7. Probable program costs and funding strategies; i.e., allocation of federal, state and local funds.
8. Program evaluation plans.

9. The sequence of steps to be followed in implementation of the local plan.

With the exception of tasks (2) and (3) above, each of these activities is concerned primarily with program delivery and the planning required for the implementation of new programs. The assignment of this planning responsibility to the local agency preserves - at least to some degree - the local autonomy now present in most states, and is entirely consistent with the concept of differentiating "goal planning" and "program planning" as discussed in detail in the following chapter.

2: THE PLANNING PROCESS

OVERVIEW

When the process of occupational education planning is viewed from a sufficiently great perspective, one is led to conclude that the many different planning practices and the many different forms taken by educational delivery systems are less the result of differences in pedagogic philosophy than the product of legislative acts and State Agency policies which have forced one approach while limiting another.

Few states have moved from one policy to another as a result of an evaluation of their initial policies. Rather, most policies and procedures represent the initial procedures developed in the individual states. Thus, while there are examples of many different policies relating to the planning, control, and financing of occupational education, there is no apparent movement toward any one point in the spectrum of alternatives.

It is not clear why, with so many alternatives available for consideration, there has been so little cross-fertilization among states. However, it appears that one of the major factors which has prevented changes from occurring within each state is the fact that the legal and political environment within which planning takes place is relatively rigid and not conducive to the implementation of new procedures and policies. Therefore, before major changes can be expected to take place, planners must understand the conditions within which alternative approaches are feasible and must seek to create, as an intermediate stage in the planning process, the conditions within which alternative approaches can be implemented. In order to do this, planners must first understand the nature of the planning process and the effect which alternative conditions have on its conduct.

The following discussion presents an analysis of the major components of the planning process as they relate to the kinds of conditions required to achieve alternative schemes for planning programs in occupational education. These discussions are, however, intended to a discussion of the impact which the planning environment has on the general process of planning and on the roles of the two major participants - the State Agency and local agencies for occupational education - in the planning process. In Part II of this report, the relationship between the planning environment and the various components of the planning process will be discussed with respect to the requirements for achieving specific policy and program goals.

THE PLANNING PROCESS AND ITS IMPLICATIONS FOR THE ALLOCATION OF RESPONSIBILITY

Planning and the planning process is essentially a function of four components:

1) Goals - a statement of the problem to be solved through the planning process;
2) Constraints - the legal, organizational, and funding characteristics of the system which define the degree to which planning may be carried out by any agency and the degree to which plans formulated by one agency may be assured implementation, if necessary, by another agency;
3) Data - the information required to define goals and on which decisions may be made; and
4) Decisions - the kinds of decisions which may, within constraints imposed on the system, be made by any

individual agency responsible for a component of the planning process.

In practice, it is virtually impossible to consider any one of these characteristics apart from the others. For instance, the degree to which goal setting becomes the responsibility of one or the other agency (and, more specifically, the kinds of goals each may set) are limited by the environmental constraints which exist within the system. This, in turn, affects the kinds of decisions which can be made by each agency in implementing different goals and goal-setting policies. In addition, the kinds of goals set and the kinds of decisions which can be made by each agency within the system affect the kinds of data needed and, in turn, the policies developed for the sharing of data-gathering responsibilities.

Because of the complexities of these interactions with respect to all the policy issues of concern to the State Agency planner, no attempt will be made to present any but the simplest and most important of these in the following discussions. Rather, these discussions will be concerned with only a basic evaluation of the impact that alternative issues addressed in these four topics have on the sharing of planning responsibilities.

Goals

The first problem in defining the goals of the planning process is to determine who is responsible for the setting of goals to be met through the educational system. An identification of the level at which goals are to be set is critical since it is central to defining the kinds of data required for planning and the kinds of services - at both the state and local levels - which must be provided to support planning.

Where the decision is to promote (or permit) a practice of setting and responding to goals principally at the local level, the State Agency has the responsibility to (a) provide the funds required to support the kinds of planning needed at the local level, and (b) assure that, in fact, local programs are developed in response to needs identified as a result of local planning efforts. This practice also suggests that the State Agency must develop formal guidelines for the development of local goals, as well as develop in its own staff the skills to evaluate the degree to which local programs do, in fact, respond to the locally specified goals.

Where the decision is to set program goals at the state level, two other requirements exist. First, in most states, it will be necessary to expand considerably the capability of most agencies to gather and assess data needs to set specific program goals. More importantly, however, if program goals are to be set at the state level, then some steps must be taken to assure that local implementation planning _is_ conducted on the basis of these goals.

As was discussed in Chapter 1, it is our contention that the ultimate responsibility for establishing educational goals rests with the State Agency for Occupational Education. From a legalistic standpoint, it would appear that the State Agency is in a position to make unilateral decisions regarding the goals which should be met by programs in occupational education. However, in many states, this is not feasible since existing state legislation provides the local agencies with virtual autonomy over the programs which it chooses to deliver.

All State Agencies are, at a minimum, required to give approval or "accreditation" to all programs being offered, and they are thereby placed in a position of determining whether locally-defined goals are acceptable within the framework of those defined by the state. However, in most states, the degree to which this authority can be implemented is severely limited by political ramifications, as will be discussed in a later section on the constraints on the planning process.

As discussed in the previous chapter, Federal legislation requires that programs in occupational education be planned in response to goals represented by manpower needs and the manpower training needs of the student population to be served. This legislation does not, however, stipulate how "manpower needs" and "student population education needs" will be defined, and it remains the responsibility of the State Agency to determine whether program goals will be defined at the state level or at the local level. This differentiation is critical, however, since it has direct implications on the level at which planning and the gathering of planning data should be conducted.

For instance, if only the manpower needs of an individual region served by the school are to be used as a basis for program planning, then it may be appropriate for the individual education agencies to conduct their own manpower evaluations and engage in planning on the appropriate local data. However, if it is the intention of the State Agency to engage in program planning based on statewide manpower needs, then it may be inappropriate for local agencies to be assigned the responsibility for manpower studies, since it is likely that many areas within the state will not be covered by occupational education planning units. (The degree to which program goals are stated in terms of statewide needs to be responded to by local programs or required state level policy decisions also have a direct effect on the data requirements and the assignment of responsibilities for data gathering. This relationship is discussed in a later topic of this chapter and in Chapter 4.)

A central problem in the definition of program goals can be traced to the history of occupational education planning. Historically, programs in occupational education were developed as a result of local initiative and, therefore, have always been the result of local planning. Under such circumstances, it was only natural that programs would be planned in response to local objectives. These objectives may be both real needs, represented by local manpower need requirements, and the local communities' belief regarding such issues as general education pedagogy, the kinds of students which should be provided for in occupational education, and how much money could justifiably be diverted to programs in occupational education. Given such a history, it is likely that many State Agencies will, in attempting to assume the responsibility for needs planning, find themselves in opposition to the historical practices of occupational education within their states. If it is to be their objective to engage in statewide master planning for manpower needs, they must recognize this limitation and take the appropriate steps to change such a condition before they initiate policies for state-level master planning.

In addition to the manpower related goals for occupational education specified through Federal legislation, there are many other legitimate goals which may be established by the State Agency. These include, for instance, the use of occupational education as a vehicle for developing general education skills, or the use of broad programs in occupational education to further develop general career awareness. Such objectives imply the development of a very different kind of educational program than that which might be developed in response to manpower needs alone, and it will be necessary for the planners to clarify specific goals for occupational education before engaging in the process of planning educational delivery systems.

Constraints

While there are many kinds of constraints which affect the responsibilities of the State Agency and local agencies in the process of planning for occupational education, most of these may be categorized under two general headings: legal/economic, and political.

The legal and economic constraints imposed on the planning process are generally found in the fact that the State Agency for Occupational Education frequently does not exhibit direct control over the flow of state and federal funds used to support local programs in occupational education. Therefore, the State Agency is generally not in a position to impose its will on the planning undertaken by local education agencies. Not only does this mean that the State Agency frequently does not have the controls necessary to assure that planning which may take place at the state level is implemented by individual local agencies, but it also means that the State Agency is frequently powerless to effect the programs which are offered as a result of local agency planning. In many instances, this lack of authority on the part of the State Agency brings about direct conflict between the capability of the State Agency to perform its mandated functions and the nature of the system established by existing state law - i.e., that legislation and funding programs support the contention that local agencies may plan independent of state action.

Specifically, the State Agency has the responsibility to provide long-term plans for the financing of occupational education and, further, it must engage in such planning on a continuous (i.e., annual) basis. However, local agencies are generally more concerned with planning a one-time response to local needs (i.e., a new building) and are frequently not concerned with the problem of conducting annual manpower or student needs assessments. Since the local agency generally sees little need for annual data on programs and students, it is often unable to justify an investment in the cost and manpower necessary to produce the kinds of planning data which are required on an annual basis by the State Agency. Therefore, any program which shifts to the local agency exclusive responsibilities for conducting such activities as manpower surveys and student follow-up summaries will, other conditions remaining constant, represent a significant constraint on the State Agency's capabilities to carry out its mandated functions. In part, this constraint is concomitant with the previously discussed problem of goal setting and the problem represented by local manpower and funding constraints must be resolved in parallel with solutions to the problem of assigning responsibility for goal setting.

From the standpoint of the State Agency, a more critical constraint on the implementation of goals set at the State Agency level is the lack of any mechanism by which the State Agency may exert direct influence over local program planning. This problem is most directly resolved through policies which provide the State Agency with more direct control over program funding. But they may also be effectively resolved by providing more direct organizational relationships between the State Agency and the local agency responsible for occupational education. (Note: The constraints represented by alternative models for funding occupational education and alternative models of the organizational relationships which exist between the State Agency and local agencies for occupational education and between local agencies for occupational education and local agencies for general education are discussed in detail in Chapters 3 and 4, and will not be considered here.)

The second major constraint to planning is based on the political nature of the planning process as it takes place at the local level. This problem has two parts. First, since local taxes cover the largest share of the expenses of local education delivery systems, there is a natural hesitancy on the part of the local planners to offer educational programs which are not relevant to the community whose taxes support the school. Only recently have educational planners begun to be concerned with the problems of migration and with the training needs represented by areas to which students are likely to migrate following their education. Thus, when planning is done on a purely local basis - or, conversely, left in the hands of the local planners alone - it is difficult for a State Agency to adequately develop a system of education which responds to statewide needs and goals.

Secondly, political forces in the local community, especially those imposed via school committee members, require local planners to satisfy business and citizen groups having vested interests in the community that their respective needs and objectives are being adequately attended. Since school committees and other advisory groups depend on the support of their constituents for their position, it is often difficult for these defenders of the status quo to propose the introduction of new and innovative programs or new educational concepts which are not consistent with the community's own perception of need.

While neither of these constraints on local planning can be directly affected by policy decisions made at the state level, they must be recognized and dealt with by the State Agency planners since they severely constrain the type of planning which can be expected from, and/or imposed on, the local agencies.

Part of the solution to this problem - which is essentially a political one - is itself political. Specifically, by defining goals at the state level, local planners are not only relieved of the right to limit their planning to local needs, but are also relieved of the responsibility of being accountable to local demands. Whether the state relieves the local agency of this responsibility by fiat (i.e., derives goals at the state level and imposes them on the local agency), administrative requirement (i.e., sets the parameters within which local planning may take place), or through attempts to educate local planners to understand State Agency needs and goals (i.e., convinces the local planners of the need to take a different perspective) is largely a function of existing legislation and organizational relationships. (The degree to which each of these alternatives is feasible under different conditions is discussed in detail in Chapters 3 and 6.)

Data

Both the State Agency and the local agencies must make constant program decisions based on information - but not all of these decisions are based on data. Frequently, both agencies need the same information and data for different types of decisions. For example, some data on local enrollments, student needs, and local manpower requirements will be required for local education agencies' course and staff requirements, etc. This same data will be used by the State Agency in formulating both its long-term master planning and its annual plans for the allocation of resources. according to areas of need. The questions then are (a) who should gather the original data? and (b) to what extent should each agency be responsible for providing data on the other in a form appropriate to its needs?

Data alone does not make for good planning. The Federal government, in specifying the data to be provided in the annual State Plans, hoped to induce planning by requiring states to gather and report the basic data needed in planning for the goals which it had selected for occupational education. It has become apparent, however, that a mere requirement for data at the state level has little or no effect on planning and program delivery at the local level. As has been discussed in previous sections, the State Agency is frequently not in the most effective position to bring about the implementation of any plan developed solely at the state level and which is intended to respond primarily to state-level goals. In addition to this limitation, it appears that the kind of planning which local administrators most frequently engage in is dictated less by data than by political inputs.

Because the State Agency is often unable to implement plans directed toward state-level goals, it may be that it is inappropriate to conduct final program planning at the state level, although the State Agency may still be in a position to gather basic planning data most effectively and compile it in a form appropriate for use by the local agency. However, given the political constraints under which local planning is conducted, it may be that data provided by the State Agency will have little impact on local planning.

Recognizing the inability of State Agencies to support - on an ongoing basis - a comprehensive data gathering and evaluation function and the inability of most local planners to use planning data provided them, many planners have suggested that responsibility for data gathering and analysis be required as a local responsibility purely on the basis of the secondary benefits to be derived. Specifically, it is argued that simply requiring the local agency to gather data - regardless of its final quality and usefulness to the State Agency - the local planners will be forced to learn more about their own problems than they would be likely to learn from a compilation of data prepared by the State Agency. While there is some justification to this argument, it does not solve the problem of providing both the State Agency and local agencies with the required planning data.

Further, as has been indicated, the local agencies frequently make their decisions based on local political inputs, rather than planning on the basis of goals derived from the data. Therefore, data submitted by the local agencies to the state is frequently compiled solely for meeting State Agency requirements and not on the basis that it will be used or will have been used by the local educational agency in conducting its own planning. State Agencies are frequently supplied with data of questionable significance and quality.

Other problems arise in relying on local education agencies to provide basic planning data to the State Agencies. First, local education agency administrators frequently do not see their program offerings as part of either a state total human resource and manpower plan (or even just a statewide occupational education plan) since they do not seem to use the data they submit to the state for their area planning and appear to have little concern for statewide goals in their own planning.

Second, local planners continue to rely on traditional sources of planning data (i.e., local business groups, etc.) rather than seeking out quantitative data for planning. In states in which local agencies are required to submit local planning data with their applications for funding, local administrators have complained that: (1) they do not have manpower to gather and evaluate reliable data (where such data is available at all), and (2) they do not get data in a useful form. Faced with inadequate or not directly useful data and frequently no hope from the State to gather better data, the traditional source of information is the planner's only alternative.

Third, most local-level planning seems to be directed toward short-range needs with little consideration given to the compatibility of individual programs developed to respond to these needs and the requirements of a long-term educational program. This limitation in local planning practices is not wholly a result of differences between the goals or philosophies of the local agencies and State Agencies. The fault probably lies more in the economic limitations faced by the local agencies. Given the political nature of local educational systems, it is frequently not possible to justify to the local school committees the need to pay for ongoing planning and data analysis - especially as it may be needed to provide data to the State Agency. Therefore, it is probable that any planning agency which relies on the local agency for its basic planning data must also make provision to legislate the existence of this function and support it with appropriate financing.

Decisions

The problem of decision-making must be considered from two perspectives - the technical problems of decision-making (i.e., data analysis and evaluation, etc.), and the organizational problems (i.e., the personnel and "political" factors which affect the process of decision-making).

For the most part, however, both of these problems are addressed, at least indirectly, in the analysis of "goals," "data," and "constraints," as discussed in the previous topics.

The problem to be directly confronted by the State Agency is more concerned with the action which the State Agency can take to control the types of decisions which are made at each level of the system.

In most states, the local agency has virtual autonomy in identifying programs to be offered and in planning for program delivery. There are two reasons why this autonomy exists.

First, as previously indicated, few states have taken steps to identify specific goals for programs in occupational education - whether local or statewide - which would set any limits on the kind of planning decisions which can be made at the local level. This, in turn, has provided the local agency with a broad latitude not only in defining its own goals, but in defining the data on which decisions will be based.

Second, few states have any problems by which the State Agency is able to directly influence local decisions by controlling the disbursement of state funds. Rather their only power of control is based on a withholding of program approval. This practice takes the State Agency out of the position of exhibiting planning leadership and places it in a position of simply responding to local initiatives. That is, the State Agency can tell the local agency what it cannot do but does little to promote plans made by the State Agency. However, if the State Agency is to assume responsible leadership for program planning, it must become the initiator in the planning and decision-making process. This would require that either (a) local agencies would be required to plan responses to goals identified at the state level or (b) local agencies would be permitted to conduct both "objective planning" and "program planning" within fixed parameters and according to procedures established by the State Agency.

The first of these models places operational decision-making in the State Agency, whereas the second would provide the State Agency with control over program policy continuing to provide the local agency broad latitudes for operational planning and decision-making. The choice between these alternatives must be based on an evaluation of the latitude provided to the State Agency by existing legislation. However, in electing one or the other alternative, the State Agency must also recognize the impact which each has on the funding and staffing provisions which must be made to support activities required at each level under each alternative, and take steps to assure that appropriate resources are available to each.

Evaluating the Interactions of Goals, Constraints, Data Requirements and Decision Making

As indicated in the beginning of this chapter, the total planning process must take account of many complex interactions between the requirements of goal definition, the evaluation of system constraints, the problems of identifying and gathering needed planning data, and the allocation of responsibilities for decision-making. The following discussions consider some of the system's interactions which affect the most critical problems and policy decisions which must be made in allocating responsibilities and money to support the attainment of these responsibilities in the two extreme instances of central State Agency control and local autonomy. (Note: This discussion is provided primarily as an example of the kinds of system interactions which must be provided for in planning the total planning system. Expanded discussions of each of the problems identified in this section are presented in Chapters 2 through 7.)

The first policy problem generally faced by the State Agency concerns whether new programs in occupational education should be planned on the basis of statewide or local goals. The answer to this question has a direct effect on such critical concerns as: (1) which agency is responsible for manpower data, and (2) how much fiscal controls should be in the hands of the State Agency.

When the policy of the State Agency is for occupational education programs to be planned on the basis of statewide manpower projections, it would be wasteful for each local unit to conduct its own manpower survey. Under such conditions, the State Agency should assume the responsibility for making such data available to local planners. This does not mean that the State Agency must actually conduct the studies required to accumulate such data - since it may rely on local agencies to gather local data and relegate itself to the role of compiling data and preparing it in a form appropriate for local usage - but it does have definite implications for services which should be supported at the state level. Specifically, if the State Agency has a requirement for good statewide planning data, it must either provide the necessary data gathering capabilities on its own staff or provide for funding the required activities at the local level. What it cannot do is to assign the local agency responsibility for providing this data and expect to receive good data without providing the financial support needed to generate such data within the local agency.

One problem of shifting the responsibility for planning data to the local agency is that there may be no occupational education units in many LEA's throughout the state. In those instances where occupational education at the state level is administratively and fiscally integrated into the total educational system, it may be feasible for all local agencies to be assigned responsibility for this task, but this is rarely feasible because these agencies do not have the resources (especially in the form of skilled manpower) to perform the needed surveys. Alternatively, where occupational education exists as a separate subsystem within the educational system, the only field data sources will be those local occupational education units actually in the planning and operating stages.

These limitations suggest the need for the creation of some form of a statewide planning network - at least for data gathering and evaluating purposes - financially supported by the State Agency if statewide needs are to be used as the basis for local program planning. (Note: The problems of statewide master planning are considered in greater detail in a later chapter.)

A second consequence of setting "response to statewide manpower demands" as the goal for the occupational education system is that there is then justification for placing the State Agency in a central role of approving the offerings of individual local units. This implies that the state is to have a power of approval over local programs - and this power must somehow be manifested through fiscal control. This function would probably be best accomplished through the implementation of a policy whereby all occupational education funds are under the direct control of the State Agency and are dispersed through annual program operating grants. However, as suggested previously, such a policy imposes a major responsibility on the State Agency to provide guidance in the identification of programs desired at the local level. Without this capability, any policy to shift absolute fiscal control to the State Agency is not only inappropriate, but probably detrimental.

On the other hand, if the State Agency's objective for occupational education programs is a response to local manpower needs or to be responsive to other local goals, such a policy would reduce the need for statewide planning data and would support the argument for shifting responsibility for securing manpower data to the local unit. Such a shift would make data much more meaningful to the local agency and would have the secondary benefit of promoting interaction with the local environment.

This policy of shifting planning responsibility to local agencies does not, however, alleviate the State Agency from responsibility for state level evaluation of local data; nor does it eliminate a responsibility to provide financial support to such activities and to require - through fiscal controls, if necessary - that quality local planning be performed regularly. That is to say, the adoption of a policy of supporting local autonomy does not absolve the State Agency of all responsibility. It means that certain types of decisions may be made by the local agency - but the State Agency still has the responsibility for insisting that appropriate decisions are indeed made and that they are made on the basis of appropriate information.

If local planning autonomy were to be promoted, there would appear to be less justification for requiring state approval of and control over program selection. Under such conditions there would be less need for legislation which assigns dollar control to the State Agency and it would be appropriate to consider legislation which provides funding directly to the local agencies through some type of formula grant.

However, any steps in this direction could lead to a circumvention of the ability of the State Agency to affect the fact, if not product, of planning as was suggested above. Therefore, it is probable that any formula grant legislation would have to be combined with some kind of additional discretionary money disbursed through the State Agency.

There are basically two areas in which the State Agency would normally have a need for control over discretionary money in the face of legislation providing for direct grants to local agencies. The first of these concerns the use of discretionary funds to influence local agencies to respond to State Agency goals, while the second represents leverage intended simply to assure that local agencies engage in local planning and program evaluation.

There are several means by which the State Agency may use funding controls to influence vocational education programs, even when occupational education is offered through, and funded in accordance with, the provisions of the LEA's. One such alternative is based on a recognition that occupational education programs are inherently more expensive than general education. In order to alleviate this burden of extra cost, the State Agency could adopt policies by which they fund the added costs represented by occupational education. If the State Agency policy is to permit or promote local autonomy, such funds may be provided in the form of reimbursement of a fixed percentage of total program costs. On the other hand, if the state wishes to assume a more active role in promoting the development of specific programs, it may provide higher reimbursements for programs which it perceives as representing greater need.

In a slightly different sense, the State Agency may assume a position of greater fiscal responsibility than is represented by fixed percentage grants, by adopting a policy of reimbursing programs on the basis of "added costs." Such a policy would require local occupational program administrators to document their costs by program and may, therefore, lead to better planning at the local level, but it would have little impact as a control mechanism because it, like the "fixed percentage grant" model, does not directly relate the rate of reimbursement to the degree to which programs meet specific goals.

One important feature of each of these concepts of supporting the incremental costs associated with occupational education is that they do not require enabling legislation. Thus, while some form of relatively broad legislation at the state level would be required if the state's share of the total vocational education program were to be distributed through the State Agency, policies relative to funding incremental costs can usually be supported out of the state's federal grant money.

PART II

ANALYSIS OF MAJOR PROBLEMS AND STATE POLICIES RELATIVE TO OCCUPATIONAL EDUCATION PLANNING

3: INTERACTION AMONG EDUCATION AGENCIES AND ITS IMPACT ON THE ROLE AND AUTHORITY OF THE STATE AGENCY

While there is little justification for viewing programs of occupational education as being in competition with other educational programs, there is certainly room for debate over the specific nature of the relationship between occupational education and general education - especially at the secondary level. The position which the State Agency takes in this debate has direct implications on the desirability of alternative local agency configurations and local-state relationships.

When occupational education is viewed as a component of a total educational system, many operational advantages can be gained by building the closest possible relationships between the two agencies responsible for the delivery of educational programs. Ideally, this integration of programs would take place at the operational level and means that the occupational education program should be under the administration (or joint administration) of the superintendents of the district(s) being served. The second most effective arrangement is one in which occupational education programs are administered by the same school board which administers general education programs or, in the case of occupational districts made up of several general school districts, by representatives of each school board. However, as the interactions between these agencies - at the local level - increases the degree of control which the State Agency can exhibit over local agencies for occupational education must necessarily decrease. The nature of this relationship is discussed in the following topic.

Organizational Models for Occupational Education at the Local Level

The degree to which programs in occupational education and general education must be coordinated is in direct relationship to the degree to which students are directly affected by the two programs. This relationship may be discussed according to three structural models for occupational education delivery.

1) the comprehensive high school;
2) the skill center; and
3) the regional vocational school.

The Comprehensive High School

From the standpoint of organization and administrative policy, the comprehensive high school is the least complex of the three major models for the delivery of occupational education. This simplicity stems from the fact that the comprehensive high school is, by definition, an extension of the local general education system, and places programs in occupational education under the direct supervision of its superintendent and board. Where the comprehensive high school exists, there is little point in considering alternative models for state and local occupational education agency interaction since such interaction must, by the nature of the system, be via the same channels which exist for general education.

While such a situation maximizes cooperation in program planning at the local level, it tends to lead to difficulties when the State Agency's goal is to promote programs which respond to statewide occupational education policy. Since occupational education at the local level is under the same administrative control as general education, the State Agency has no direct, exclusive, means to stimulate or influence program selection in occupational education.

Operationally, the comprehensive high school has a distinct advantage over other organizational arrangements since it tends to offer all students greater access to career preparation.

Where occupational education programs at the local level are divorced either partly (the skill center), or wholly (the separate vocational school) from the general education system, there exist significantly more opportunities to generate direct state/local interactions and to initiate programs leading to greater State Agency guidance than would be possible when occupational education funds represent only one source of the support coming to an agency.

The Skill Center

The existence, or absence, of administrative interaction between general and occupational education programs at either the board or superintendent level becomes more significant when occupational education is offered on the skill center facility concept. Since only occupational related skills (both theory and practice) are taught in the skill center, a great deal of curriculum cross-articulation is required to assure that the student's home school offers instruction which supports the occupational education programs offered in the skill center. In addition, many educators engaged in occupational programs are beginning to identify a need for a reverse flow of information in the process of curriculum cross-articulation. For instance, traditional "English" courses are being restructured to include report writing and reading as it is needed to help students understand technical manuals.

These trends have broad implications for curriculum development and can only take place if both the class and laboratory components of the educational process answer to the same final authority. This them implies that skill centers should be operated under the direct guidance - if not control - of the chief administrators of the schools served by the center.

Educationally, the major advantages of the skill center are: (1) it is frequently the most economical response to providing occupational education facilities and opportunities to several districts, and (2) as a "new" and physically separate agency, it may have an opportunity to implement instructional philosophies which would be incompatible with existing institutions. From the standpoint of the State Agency, the existance of the skill center as a quasi-autonomous entity provides for an increase in State Agency control over program planning and delivery because it permits greater latitude in the development of funding provisions separate from those established for general education and permits the implementation of procedures which are generally inconsistent with those employed in the planning and administration of general education.

The Separate Regional Vocational School

When a vocational school system is established as a separate, self-contained institution, the problems of integrating programs with other schools (as in the skill center model) are less severe because all programs are initially under one program director. Vocational school systems which exist as separate legal entities have significantly greater flexibility in planning their programs and methods of operation than those which exist as cooperative extensions of the participating school systems, since the separate school system does not have to satisfy diverse school boards and administrations when conducting both initial planning and program review and change. The creation of an independent system also provides an opportunity for the creation of an alternative form of education which may be prevented by the inertia found in existing systems and the failure of traditional school administrators to fully understand the problems and processes unique to occupational education programs.

However, the totally independent vocational school district also has two distinct disadvantages. The area vocational school is usually developed as a totally separate educational institution which students attend for a full day; because of capacity constraints, it is frequently not available to serve the needs of other students in the district. While such school systems could implement programs involving multiple sessions (allowing more students to attend the vocational school through a shared-time schedule after the regular school day), the school which exists as a separate entity is not under the pressure of participating school systems to do so, as are jointly operated schools. Thus the creation of a separate school system may result in a reduction in the availability of occupational education for many students.

In addition, the creation of a separate school system has historically meant that communication between the new and the old systems is at best weak, and frequently nonexistent. This results in significant problems in identifying and selecting students who should and can attend the separate school. Where the occupational education program is the joint responsibility of either the chief administrators or boards of the participating district, channels for such communication are much more open resulting in much greater cooperation and joint planning. However, the jointly-administered model has the obvious weakness of requiring positive action by multiple administrators and multiple boards on every major question of programming and funding.

Both of these problems are even more critical when the separate school is the operating responsibility of the State Agency. Such a model presents all the disadvantages of any separate system and suffers the additional problem of long response times complicated by frequent requirements to secure legislative approval to make fundamental policy changes. When separate schools are established for occupational education it is possible to create the most direct ties between the State Agency and the local agency. Therefore, this arrangement provides the State Agency with the greatest opportunity to engage in statewide planning.

Implications of Funding Programs and Organizational Models on State and Local Agency Interaction

From the standpoint of the State Agency, the desirability of alternative relationship between the local occupational education unit and the local (general) education agency (LEA) responsible for general education must be evaluated with respect to implications for funding and for the degree to which the State Agency may use funding controls to influence program selection and operation.

In states where local occupational education units are integrated into the LEA for administrative purposes, the funding of occupational education is generally provided through the same allocation formula used for general education (i.e., fixed reimbursement on the basis of FTE or Head-count students, etc.). Such a policy of uniform program reimbursement is detrimental to the development of occupational education for two reasons. First, if the LEA is to be reimbursed uniformly for all students, there is little reason for the LEA administrator to develop programs specifically in occupational education. To do so would require raising local taxes in order to support the programs, or reducing funds available for other existing programs. Second, where funding for all programs is provided through a mechanism external to the State Agency for Occupational Education, the State Agency has no direct means of either stimulating or affecting the selection of programs in occupational education.

Legislation which supports occupational education primarily through policies designed for general education does so most often through reimbursement grants directly to the local education agency responsible for general education. This approach tends to bypass the State Agency for Occupational Education, and can force undesirable legal relationship between the local agencies responsible for general and occupational education. That is, such funding policies would require the local occupational education system to respond to the objectives of the local education agency, rather than permitting it the autonomy which may be needed to pursue certain objectives.

Alternatively, where provision has been made for the creation of autonomous occupational education school districts, such programs have usually been accompanied by legislation which establishes separate funding for these agencies. When this occurs, the State Agency is in a better position to determine how these funds are to be administered to promote its own concepts of occupational education. However, such a relationship also creates a new local agency which must then raise taxes to support its share of the total program cost. (Note: Alternative models for funding occupational education are discussed in detail in a later chapter.)

Existing Alternative Models for School District Organization

The solution to the problem of how to offer occupational education is closely related to the legal basis for educational program planning and administration, and the differences in the legal status of the occupational education district can have a significant effect on the growth of occupational education.

One of the important issues associated with the legal status of the occupational education program is the question of how planning is initiated and administered. Can planning only be done by existing school systems? Can new, alternative, legal units be created through independent citizen action? If so, how does this entity relate to the existing school systems?

A second and more significant issue related to school district organization is the ability of the occupational education district to raise its own construction and operating funds. In a large measure the provisions which are made for such funding define not only the way new programs are planned but also the types of facilities and services which may be planned. That is, separate vocational school districts created as independent legal entities and having independent taxing and bonding powers are likely to have a number of options available to them which are not available to vocational districts which exist only as cooperative ventures.

The following topics present examples of alternative models for school district organization in various states, and the effect these alternatives have on the final educational program.

Occupational education districts are organized and administered in two general forms. Either:

1) the school district exists as a separate legal entity having its own separately elected board and independent taxing and contracting powers; or,

2) the school district is not a separate legal entity but is under the administrative responsibility of the boards of the school districts which support it.

Under each of these models there are several variations.

Independent Legal Units for Vocational Education

Only a few states have provision for the creation of occupational education districts as totally separate legal entities. In most of those states, however, there is also a provision for the creation of one or more other forms of school district jointure which result in a new unit having some legal status. The spectrum of alternative models for legally constituted planning and administrative units are represented by the four models of Kansas, Ohio, Massachusetts and California.

In both Kansas and Ohio, new school districts - while separate legal units - are the planning and administrative responsibilities of existing schools and school boards. In Massachusetts, regional schools are created as independent units having no connection with existing systems; and in California (that is, in one of California's options) separate occupational regions are created by joint action of existing school departments, but once created, assume a totally independent legal and financial status. Even within the four states, variations of the models for organization exist.

Kansas provides for two types of program planning and delivery models known simply as Type I and Type II. Under model Type I, a unified school district may decide to establish an area vocational technical school as a separate legal entity under the unified school district board, i.e., the same members serve on the occupational school district board, but the boards meet in separately constituted parliamentary meetings.

This agency has full taxing and construction-bonding power. Under this model, the vocational district is co-terminus with the unified school district lines. Such a district could, however, develop joint operating agreements involving contracting of services to other unified school districts, but the board of the sponsoring district maintains total responsibility for program planning and administration.

Under the Type II model, several unified school districts join together, and create an "area board of control", for occupational education. This board is made up of board members from each member district. This agency can contract for services, but has no taxing power and cannot build new buildings. All operating costs for such a program must be allocated from the budgets of the participating districts, and it is for this reason that members of each of the district school boards also serve on the area board of control. If new buildings are required, one of the participating districts must be the building owner. This district then turns the building over to the area board for operation.

Under both of the Kansas models the superintendent (or one of the school superintendents) is in charge of program and facility planning.

Ohio provides for three types of occupational planning and delivery systems: "jointures" - separate area vocational school districts, "contract systems", and single districts which operate as independent districts. Under both "contract" and independent district planning (similar to Kansas' Type I districts) all services provided to each district are the responsibility of the boards of the single sponsoring district and there is no new legal arrangement required. When a "jointure" is created, however, a separate legal body is required. In most cases - but not all - the responsibility for program planning and operation is assigned to the superintendent and board of the largest school system who act as the sponsoring agent for the receipt of state and federal funds.

In both Kansas and Ohio the creation of an occupational education planning unit can only be the result of action by the local school administration or school board. Under such conditions the administrators of the existing educational systems must either independently recognize the need for occupational education programs - a major limitation to the early growth of occupational education - or must have some form of outside stimulation. Both Kansas and Ohio have provided such external stimulation through (respectively) the granting of special taxing powers to support vocational education, and legislation requiring the provision of vocational education. In most states, however, external stimulation comes about only very indirectly through State Agency encouragement and citizen pressures. Where a separate legal entity can be created independent of the administration of the local school systems there is a greater opportunity for citizens groups to take action to stimulate the development of a vocational district. One such system is found in Massachusetts.

In Massachusetts a totally independent regional, vocational-technical school district may be created solely by popular vote in the towns electing to join the new region. Such a vote creates a new school system totally independent of existing systems in the participating towns. The boards of these regional schools are then created by an appointment of one or more (the number depending on the school district charter) representatives from each town. These representatives may be (but are not necessarily) members of the school boards of their respective communities, but they are usually selected for membership on the regional school board by the local school committees. This regional school board - which has no legal connection to the boards of the local communities - has independent taxing and bonding powers, and is wholly responsible for the planning and operation of the regional school.

California legislation does not provide for separate occupational school systems, but does provide for, among other alternatives, the creation of skill centers (Regional Occupational Centers) which exist as separate legal entities. These skill centers are created by joint agreement by the participating school districts to offer vocational education on a shared-day basis. However, while the skill centers must work jointly with the sending schools, they exist as separate legal entities having their own bonding and taxing powers.

Non-independent Legal Units for Vocational Education

The second major type of occupational education planning unit is found in those states which require that the planning and operation of the vocational school districts to be the direct responsibility of the participating school systems. Such restrictions have led to two major types of cooperative programs: systems of "joint delivery" and "contract" systems. Under both "joint delivery" and "contract" models, the operation of the occupational education programs is the legal responsibility of the school board and administration of the individual local education agencies and no separate legal entity is created.

Under programs of "joint delivery", school districts merge to create a total delivery system in which each school or school system offers several occupational programs. Under such systems students may be shared between their home school and the facility offering the occupational program in which they are interested. Under joint delivery programs, such as those provided in California and Ohio, each school system is independently responsible for construction bonding and for operating expenses - although these costs may be shared through some form of tuition charges to other systems.

"Contract programs" are very similar to joint delivery programs but usually have the characteristic that all programs are offered in one school and other schools contract with that school for services. This model is common in states like Minnesota and Kansas (Type I) which do not provide for joint ownership of facilities.

In Minnesota, there is no provision for the creation of a separate occupational education system, nor is there provision for multi-district ownership of a facility for occupational education. While it is feasible for one district within a consortium of participating districts to construct a facility and allocate costs to the participating districts, state policy limits reimbursement of construction expenses to direct facility costs only, and makes no provision for the reimbursement of any portion of the interest payments. As a result, the preponderance of local planning is based on program planning and not facility planning. Required facilities are usually provided in leased space, although there is provision for private industry to build facilities to lease to the schools for a fixed period of time and then either give or sell the facilities to the school at a later time. Therefore, when districts join in a contract arrangement, they may be contracting with an agency outside any of the school systems to deliver services to all.

The New York BOCES (Bureau of Cooperative Educational Services) system represents still another special case of schools with no legal status as school systems. BOCES are constructed primarily with federal funds, and supported by the local districts. This support does not come in the form of direct tax support of the BOCES center. Rather it comes in the form of a purchase of services by the school systems served by the BOCES Center. If no students from a district come to the BOCES, that district pays nothing. Therefore the BOCES is forced to sell it services to the local communities. In effect, the BOCES Centers exist as publicly owned private skill centers.

Under such an arrangement, the BOCES board is more analogous to a board of directors of a proprietary school than a school board, since it has no direct fiscal responsibilities but has as its main function the responsibility to see that the BOCES is offering programs which are attractive to its clientel. Since the shared-day programs of the BOCES require close cooperation with the sending schools, the board of the BOCES is made up of members of the school boards of each of the local school systems in the BOCES district.

4: MASTER PLANNING AND THE DEVELOPMENT OF OCCUPATIONAL EDUCATION

PROBLEMS AND REQUIREMENTS OF STATEWIDE MASTER PLANNING

The development of a statewide master plan for occupational education is usually proposed for one or more of the following reasons:

1) to correlate planning for occupational education with broader state goals for economic and human resource development;
2) to integrate the activities of various agencies (specifically secondary schools and community colleges) responsible for formal programs in occupational education; and
3) to force comprehensive (i.e., statewide) coverage by occupational education programs.

These three objectives represent sequentially greater levels of program integration and call for sequentially greater legislation and systematic planning relative to the goals and objectives of occupational education.

Since the first two of these objectives require the development of organizational ties and operational relationships with State Agencies generally outside the jurisdiction of the State Agency for Occupational Education, the creation of units for such coordinated planning are not always under the direct control of either the state or local education agencies. Therefore, the geo-political units which are established to facilitate such objectives may differ significantly from the planning units which represent the most desirable basis for comprehensive planning with the framework of the secondary occupational education system.

The major benefits to be derived from comprehensive master planning based on the first and second of the above objectives are principally economic and are derived primarily from a reduction in the duplication of efforts engaged in by alternative agencies. However, a significant difference exists between the programs designed for these two objectives. Plans designed to promote the first objective are designed to include manpower training programs and other similar programs outside the formal educational system; while programs designed to meet the second objective are concerned only with the various components of the formal educational system. This difference has a significant impact on the way such planning districts are created and decisions within them made.

In most states, manpower planning districts under the Department of Labor, CAMPS coordinating councils, and Economic Development Agencies have taken steps to subdivide their states into geographic planning units before State Agencies for Occupational Education began to consider such systems. Therefore, if the geographic unit for coordinated planning is to include the efforts of manpower agencies and not be limited to the formal education system, most states would have to adopt existing planning units for their comprehensive planning purposes. While this approach has many benefits in the form of data availability, it has significant drawbacks from the standpoint of educational planning.

The most significant of these drawbacks is related to the economic aspects of the educational delivery system. Specifically, regions planned by and for manpower and economic development agencies are not always well related to the tax bases required to support new educational programs.

A second major drawback to adopting planning regions originally developed for non-educational planning is that such regions do not necessarily reflect school-age populations and population densities appropriate to establishing occupational education programs. Therefore, programs established through these units may not have enrollment levels which promote most efficient program planning, or may not be served in a facility whose travel time from multiple population centers is realistic in terms of making such programs available to the populations to be served.

The development of master planning regions for the purpose of planning the development of a statewide occupational education system (objectives two and three) provides greater flexibility in the geographic organization of planning units than characterized by objective one, and also implies different operational tasks to be carried out by the State Agency. Such an approach also provides greater flexibility in the way regions are created and permits the State Agency to adopt policies which will ultimately have a more positive effect on the educational program.

The means by which educational units are joined to form larger planning units is dependent on both the nature of other existing planning regions and the goals to be achieved through the creation of a total system of educational planning and delivery units. When master planning for occupational education is proposed as a means of integrating the planning of occupational education programs with other goals for regional development, such a program must tacitly assume that occupational education programs can be viewed as a significant tool in promoting such development. There is, however, some question as to whether occupational education (especially at the secondary level) does have a major impact on such development. Even more important, there is the question of whether, given the present state of data availability (or rather, nonavailability) and decision-making processes, it is feasible to translate relatively broad goals for regional development into appropriate educational programs.

This issue is further complicated by the pedigogic considerations held at both the state and local levels concerning the true goals for occupational education; i.e., should programs be offered on the basis of what students want and need, or what society needs? These concerns are, however, simply limitations on the total effect of engaging in coordinated program planning and do not negate the benefits to be derived from coordinated planning.

While the underlying theme of each of the models for "master planning" for occupational education seems to be the development of a mechanism for providing the most efficient allocation of resources within one geographic region, there is little evidence that the present models effectively fulfill this role. In fact, the rigid imposition of planning unit boundaries by the State Agency may act to the detriment of good program development.

Specifically, it would not be hard to envision instances in which school districts within planning units established by the state could cooperatively plan for better programs within smaller units than at the larger unit defined by the state. Similarly, school districts not grouped together under the state organizational unit may share objectives and wish to develop programs, but these could not take place under the guidelines of the state-developed master plan.

The major advantages which state-level master planning should exhibit are: (a) master planning which assures that all school systems in the state are part of a vocational school district and, in theory, that all students will have access to a vocational program; and (b) district planning which coordinates secondary, post-secondary and other occupational program planning and provides for greater cooperation and coordination of resources.

While both objectives are worthwhile, there is little evidence to suggest that current practices of master planning can achieve these in the most desirable way. The imposition of state defined planning regions has many disadvantages in terms of developing the most desirable cooperation between local agencies, and the concept of coordinating programs has not been shown to be either entirely significant or workable. It would seem that in future planning, these objectives could be better met through a combination of models to assure coverage of the entire state through educational delivery systems and through the provision of separate legislation intended to assure agency cooperation but not limiting such cooperation to geographic planning units shared by all related agencies.

Some states are now organized (administratively) to plan for the integration of the planning and delivery of occupational education by all public education agencies. However, in most states secondary and post-secondary programs are the responsibility of separate agencies - each of which is limited in the degree to which its own activities can affect the planning policies of other agencies. However, within these limitations there still exist two basic goals for the development of a statewide system of occupational education:

1) the development of a plan to assure that all school systems engage in the planning and delivery of occupational education; and
2) provision of a framework within which to plan and develop a system with the intent of eventually achieving objective (1).

When a State Agency requires all local education agencies either to offer - or join with other agencies to offer - programs in occupational education, it must also be prepared to support such a requirement with whatever funds are required under existing reimbursement formula. This problem is particularly critical in the effect it has on construction funding, although the impact is also significant on program maintenance expenses.

The impact on construction funding is severe because most states which operate on construction reimbursement formula make such reimbursements as construction proceeds (with annual or semi-annual payments for expenses to date), rather than over the life of the local bond issue. The large block grants which result from such practices serve to greatly reduce the interest payments to be made by local communities over the life of the bond. However, if the State Agency were to instigate a planning policy leading to the rapid acceleration of construction, it would be faced with a tremendous economic burden. Where only federal funds are used for construction, it would be almost impossible to implement a policy leading to massive amounts of new construction and retain the existing levels of program funding, for the state's federal funds are generally fixed and other programs now offered would have to be abandoned in order to meet the demands for construction funds. Of course, it would be possible to reduce the level of the percentage reimbursement to keep the demand for funding down, but such a policy would have severe repercussions in increased burdens on local communities.

Where construction is paid out of a state bond pool resulting from a voter referendum, the large amounts of money involved in a policy requiring new construction would significantly increase the probability of voter rejection of the entire issue, thus defeating the basic goals of the plan.

As a result, it is probable that the only conditions under which a plan resulting in extensive new construction could be implemented would be:

1) a state in which construction is funded out of state operating revenues; and
2) the state whose legislature is willing to pass special legislation to support the expanded construction required under such a plan.

When the goal of organizing the state into planning units is simply to provide a basis for long-range development of occupational education, the state is inherently recognizing the economic limitations which prevent immediate development of a total system, but is providing the mechanism through which the same ultimate objective may be met through the allocation of limited resources on a priority basis. However, such a program is only meaningful if, in fact, the State Agency is in the legal position to okay funds to individual local agencies who wish to develop programs out of phase with the state's program of priorities. Thus, legislation which provides for automatic reimbursement would be incompatible with this philosophy of priority planning.

The implementation of policies requiring all local agencies to be a part of an occupational education planning district can also be pursued for several reasons outside of the two goals stated previously. One of these reasons may simply be to provide stimulation for local agencies to begin thinking about the need for occupational education and to begin considering options for the development of such programs. Such an objective is of particular importance in states where occupational education planning regions are created solely by local initiative - and especially where such action is based on citizen initiative. Such a policy of enforced regionalization not only provides stimulation for district mergers but would - if implemented as a policy of the State Department of Education - bring about an active role on the part of local education agencies, which is frequently not otherwise evident.

The planning units which result from a policy implemented for the purpose of simply causing planning to be considered (but not imposing the requirement that such planning should proveed immediately may then become the basis for developing a state master plan for occupational education development. However, with or without this ultimate objective - but especially if this ultimate objective is held - the State Agency has the obligation to provide certain guidelines relating to potential enrollments, tax base, etc., to guide local agencies in developing joint districts.

ORGANIZATION OF PLANNING REGIONS

The quality of local program planning and the degree to which all occupational education programs throughout a state can be coordinated is largely a function of the way planning regions are created. The geographic unit in which planning takes place is important for two reasons. First, since the limited state-generated planning data which may be available is frequently developed by regions which were not initially established for educational purposes, the quality of local planning can be significantly effected by the degree to which occupational education planning regions are made co-incident with data base regions. Secondly, the degree to which occupational education programs can be made compatible with other educational programs - both horizontally (program coordination with high schools), and vertically (program articulation with community colleges and technical institutes) - is a function of the degrees to which their districts are coterminous. The types of planning region models now in use are discussed in the following sections.

Unconstrained Local Planning

Almost all states have provisions for municipalities to join together to share the costs of public services which could not be afforded individually. Therefore, some form of locally-initiated joint venture is feasible in almost all states.

Under such a model, local agencies - citizens groups, school boards, or the school administration - decide to initiate action to create a region to be designated by the State Agency as an authorized occupational education program eligible to receive federal VEA funds. In states such as Massachusetts, where occupational education districts exist as separate, legally-constituted education agencies, planning is frequently initiated by concerned citizens. However, in the majority of those states where the creation of planning districts is the result of local action - California, Minnesota, Kansas, Alabama, and Utah, for example - the occupational education system cannot be established as a separate legal entity and planning must be initiated by the local education agency. In all of these states, any action to form a cooperative vocational education district, of whatever legal form, is based entirely on local cooperation. There exists no state mandates which have established geographic boundaries for planning and, with the exception of Kansas and Minnesota, there are no restrictions on the rights of the district to construct new facilities.

A kind of hybrid of state and local planning based on local planning initiative and locally identified planning districts is found in the post-secondary education systems of several states. For instance, in Utah and Alabama, action to begin the creation of a post-secondary institute is locally initiated, but the actual planning of the district to be served and the programs to be offered is a joint state/local effort. This requirement is the result of the fact that post-secondary institutions, having no tax base, must rely on the legislature for construction and operating funds, and local groups are forced to comply with state objectives and plans to secure funding.

State-Mandated Planning Regions

The growing awareness of the importance of the "systems" approach to integrate the planning activities of multiple state and local agencies is only now beginning to have an effect on state policies relating to regionalization and master planning. However, in most states, there now appears to be a movement toward the creation of some form of a statewide system of planning regions. Many states, in particular New York, Michigan, Florida, Kentucky, North Carolina, Connecticut, Ohio, and Pennsylvania, have some form of statewide plan for regionalization of occupational education planning. Some states, like New York and Michigan, began their programs of regionalized planning in the early 1960's, while other states, like California, are now joining the regionalization band wagon through experiments in their own models for regionalization.

In most states, regionalization for purposes of occupational education has come about primarily as a result of the 1963 and 1968 VEA funds. However, prior to this time, many states had regionalization plans for other purposes, such as Economic and Human Resource Development planning. Education, particularly occupational education, is clearly a major factor in economic and human resource development, and this relationship is now always reflected in regionalization plans.

For the most part, planning regions for occupational education have been created on the basis of one of two models. These are:

1) planning regions created to coincide with regions identified for other State Agency planning; and

2) planning regions created on the basis of educational program development plans only.

Regions for Integrated Multiagency Planning

Two states, New York and Kentucky, have organized their occupational education planning districts to coincide with the planning regions for other state services. New York is now in the process of developing a statewide system of 13 educational planning regions* which are intended to draw together all public secondary schools, community colleges and technical colleges, urban centers, hospital schools, and private trade and business schools. In each region, all agencies desiring to be eligible for VEA funds must participate in the planning activity. As part of the New York plan, each agency is designated to serve a specific portion of the population or provide a level of program. In this way, overlapping or duplication of services is avoided to a great extent. The regional planning is conducted by full-time plannings from the State Agency staff, the cost of which is supported in full by VEA funds.

Kentucky's vocational education system is, in fact, a hybrid of models representing local planning initiative and a state master plan. Kentucky has 15 Area Development Districts created by the governor to facilitate cooperation of both State Agencies and the state and federal government (principally the Appalachian Regional Commission) on projects of mutual concern. Six of these districts have been merged into three vocational planning regions to leave 12 vocational planning regions. Within each of these districts, the state has, through state initiative, planned and constructed a state operated (and state financed) area vocational school. However, in addition to these area schools, there are 69 approved area vocational extension centers (not all of which have been constructed), whose planning and construction represents local initiative. These extension centers, while paid for out of local funds, are administered by the State Agency and, therefore, exist as part of a comprehensive state system.

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*New York now has 55 BOCES districts. These are now being integrated into the 13 occupational planning regions discussed here. With the exception of the large city school systems, these 13 regions are planned to coincide with the state's economic development regions.

Other states, like Kansas and North Carolina, have adopted the planning regions initially developed by other agencies - primarily economic development councils - for their general state/local planning. However, because operational planning is done within districts created by joint agreement of local agencies, these planning regions are not the service regions for integrated program planning.

Educational Planning Regions

A number of states, including Michigan, Kentucky, Connecticut, Florida, and Ohio have developed statewide master planning regions specifically for occupational education. The most common approaches to the creation of educational planning regions are represented by the models used by Florida and Michigan. These states have each designed systems which will at least make feasible and will, ideally, promote vertical articulation and coordination of programs and planning efforts. These models are characterized primarily by the development of planning regions in which secondary and post-secondary districts' boundaries are coterminus. However, beyond this common objective, very different formal channels for communication and program coordination have been established.

In Michigan, which has 49 planning districts, Area Coordinating Councils have been established to assure joint planning. These councils, half the membership of which must be lay persons, has the responsibility of screening state and VEA funding applications from all educational levels so as to assure that program duplication is minimized. The formation of these councils are not, however, to "plan," but merely to coordinate the independent planning efforts of the separate agencies and make recommendations to the appropriate State Agencies.

Iowa has a model very similar to that of Michigan, except that Iowa regional councils have significantly more authority over local planning.

In Florida, the goals of program coordination and cross-articulation are less formally stated than in Iowa and Michigan. The idea of promoting local program coordination between secondary and post-secondary programs in Florida is less important than in Michigan, because the programs in the Florida Community College system are coordinated at the state level so that duplication and gaps are minimized horizontally and statewide within the community college system rather than vertically within each district. Therefore, the central purpose of the Florida scheme is administrative convenience which is accomplished by placing one district superintendent over all secondary and post-secondary programs in each district.

Three states, Ohio, Kentucky, and Connecticut, have gone so far as to develop formal, operational master plans for the development of occupational education programs. Kentucky and Connecticut are the only two states in which program and facility planning and construction are the responsibilities of the State Agency, and each of these State Agencies have divided their states into planning regions for occupational education.

In Connecticut, occupational education regions were created principally on the basis of student population characteristics. Using as a planning guideline the estimation that occupational education should be provided for approximately six percent of the students in a region and the minimum school size should be 500 students, Connecticut created 18 planning regions for secondary occupational education. These regions also take into consideration travel time, employment needs, etc., but were not formally planned to be coincident with either economic development regions or community college districts. In Connecticut, the planning and construction of facilities is initiated by the State Agency. However, the complexity of the process of securing bonding for new facilities means that the State Agency does not have final control over the initiation and conduct of planning.

Ohio represents an unusual example of planning based on local initiative since state legislation (enacted in 1969) mandated that all students be provided with an opportunity to pursue an adequate vocational education program. This legislation was, in turn, interpreted by the State Agency for Occupational Education to mean that all the school systems must be part of a vocational education district.

The legislation further set broad guidelines for the vocational education enrollment base (1500 students in the high school years) and numbers of programs to be offered. It also mandated that vocational program stations be provided for not less than 40 percent of the students in the upper two grades (i.e., minimum of 300 vocational students). Local districts were then required to either develop independent plans for the development of vocational education (if they were large enough) or join with other districts to do so. This plan resulted in the merger of the state's 630 local school districts into 105 vocational planning regions (the state's own master plan called for 56) which then had five years to implement the required minimum of 12 programs in occupational education. Under the stimulating legislation, students from any district which did not join a planning district would be offered occupational education in a neighboring region, with the sending district forced by the state to pay for such a program on a tuition basis. The state supported this legislation by providing $75 million in construction money from a state bond issue - representing a 50% reimbursement basis - and continues to support construction with federal VEA and revenue-sharing monies.

5: STATE AGENCY CONTROL OF PROGRAM PLANNING AND EVALUATION

Where program planning is a local responsibility, the role of the State Agency is largely limited to that of program review and approval. In most states, there are significant differences between the activities of the State Agency with respect to approval of initial planning proposals and approval of ongoing (annual) planning proposals. State policies with respect to these two classes of program education are considered in the following topics.

Evaluation of Initial Planning Proposals

For the most part, the roles of the State Agencies in program review seem to cluster at the two extremes of:

1) rigid sequences of program approval which assure state interaction, involvement, and control throughout the process of local planning; and
2) state approval required for final architectural plans only, with no requirement for approval of programs, capacity, etc.

One example of a plan which insures state involvement of the approval sequence required is Illinois. This program incorporates the following three characteristics:

1) "Phase I: the local agency shall prepare a proposal documenting information of geographic, demographic, and economic characteristics of the region to be served; programs to be provided; administrative structure; methods of funding; relationship of center to other occupational

training in the area; and types of populations to which programs are directed.

2) The Phase II proposal shall include finalized educational specifications, administrative structure, local funding methods, plans for coordinating with local high schools and community colleges, plans for serving the disadvantaged and handicapped, and justification that the proposed center will serve the needs of the area.

3) Phase III is the development of a facility plan which is intended to implement the proposed educational specifications and only then may construction begin.

At the other end of the approval-requirement spectrum are states, such as *Massachusetts*, which exercise no controls over the planning process and limit their mandated approval to final facility plans. In the specific case of Massachusetts, even this approval is only a formality because the state is required by law to reimburse the local agenci[illegible]or 50% of construction costs, and approval of such construction funds is the responsibility of a bureau not associated with the Division of Occupational Education.

In most states, controls over planning are represented only by the data required for program approval. Exceptions to this rule exist in *California* and *Ohio*. These states not only require that local districts support their program proposals with documentation of need, but also require comprehensive statements of *how* they will be operated. This requirement is especially significant when the programs are based on "contract" or "joint-system" plans, in which case the local agencies must provide plans for such activities as transportation and curriculum development before a plan can be approved. Even these requirements are, however, intended only to help in program evaluation and approval rather than to foster a system assuring control over the local planning process as is provided by the Illinois plan.

The general absence of rigid requirements for local program approval is explained by the fact that the evaluation of program needs and selection of programs to be offered in a secondary program is almost exclusively a local responsibility. For instance, in Utah, while local programs are funded primarily by out of state funds and require state approval for funding, the state exercises no control over the actual programs offered by the local agencies as long as those programs are in keeping with the objectives of the State Plan. In Utah, as in many states, federal money is used by the state as a carrot to promote its goals, but not many districts have taken advantage of it. So while the State Agency can plan what it would like to see happen "unless a local agency agrees with the (objective), it won't happen. They have local autonomy."

While some states have program review and veto power, few states have established programs to support local planning with any kind of State Agency services - either personnel or data. As a result, the problems of conducting needs analyses and engaging in facility programming usually fall to the local administrators, school committees, and/or consultants.

There are, however, a few states which have committed state resources to providing technical and information assistance to local planners. The type and extent of these services vary widely across the country. Some examples include:

1) Program Planning Support: New York, Kentucky and North Carolina each have full-time occupational education coordinators and planners working in each of their educational planning regions. Other states, particularly Ohio and Kansas, have implemented broad State Agency support service to provide assistance in conducting needs surveys and other program planning tasks.

2) Construction Planning: Most states now have space and station standards for occupational education laboratories, and some - Connecticut, Mississippi, and Tennessee to name three - have even developed sample laboratory layouts to help locally selected architects in developing building plans. Other states, like Alabama, provide extensive architectural review and evaluation services. Florida even goes so far as to plan and administer large program and facility planning charrettes for the districts of the state.

3) Manpower Planning Data: New York, through its program of comprehensive regional planning, and Pennsylvania, through the outstanding efforts of its Research Coordinating Unit (RCU), have developed and continue to update complete manpower statistics at the county and/or planning unit level. This assures the availability of manpower planning data at the level most needed by local planners. Iowa, in order to assure the availability of needed manpower data, funded manpower studies for its vocational schools with RCU funds.

4) Manpower/Education Planning Data: One of the most frequently cited problems of planning is the lack of manpower data provided in a form appropriate for educational planning. Kansas, Oklahoma, North Carolina, and Iowa are now well along toward implementing computerized manpower data systems which report manpower needs projections by occupational education program category (based on the education/occupation matrix in Vocational Education and Occupations).

Another significant issue is the question of how states respond to locally developed plans. In most states, construction and operating fund reimbursement policies are specified by legislation and are therefore not subject to policy changes by the State Agency. That is, if legislation provides for construction reimbursement such reimbursement represents a mandated expense, and, if the local agencies come up with their share, the state is forced to meet its legislated obligation. Several states, however, such as Kansas and Alabama, have no such mandated reimbursement formula and all such funding is provided in annual budgets. Such states have a greater obligation to coordinate local plans and set priorities for program development within the constraints of limited State Agency funds, but have a greater opportunity to exercise control over local agency program planning. While, in practice, the policies of these states have not been manifested in the formal program approval requirements represented by the step-by-step approval process found in such states as Illinois, they do give the state significantly greater control than is provided in states having only the power of program approval not tied to funding.

Evaluation of Annual Plans

At present, few states have any formal provisions for control over local educational program offerings once initial plans are approved. This condition is the result of an almost total lack of any sort of follow-up data which can serve as the basis for program review.

Several states, in particular California, Ohio, and Alabama, do conduct reviews of annual plans and manpower studies and do, on occasion, suggest that programs be added or dropped on the basis of changing manpower requirements. In Connecticut, similar program evaluations are conducted on the basis of program enrollments and completions. Where enrollments are low or program dropouts are high, the continuation of the program is carefully evaluated. In making decisions on program continuation, Connecticut has the advantage of having its school directly under state control, and such decisions are immediately translated into action. However, each of these states recognizes that data for making annual decisions of this type are usually not particularly good - largely because local agencies cannot justify the expense of conducting in-depth labor market surveys on a regular basis. It is only in extremely obvious cases, therefore, that local agencies are prompted to drop programs.

6: FUNDING POLICIES AND STATE AGENCY CONTROLS

One means the State Agency has for assuming a position of leadership in the initiation and development of vocational education programs, whether in response to specific manpower program needs or general needs for regional human resource and economic growth, is through control of the allocation of construction and operating funds. In fact, since most operational planning and administration of occupational education programs takes place at the local level, the major power of influence and control left in the hands of the State Agency is represented by the power it has over funding.

The funding policies of most states can be represented as one of two types:

1) funding policies intended to provide an equitable allocation of state and federal funds to each local educational unit; and
2) funding policies in which the State Agency uses its power to influence the direction of local planning.

Most state funding policies are of the first type. That is, most funds represent program maintenance expenses used to reimburse the local agency for past expenses but providing little stimulation to change its policies or to implement new programs.

The economic aspects of the educational program are the ones given closest consideration by the state government structure; it is not surprising, therefore, that it is in the area of funding that the greatest number of alternative models has developed. Curiously, the models developed for the funding of initial planning and construction are often inconsistent with the models by which ongoing operations are maintained. Frequently, state funding policies, taken as a whole, work to the detriment of new program development, and are in direct conflict with the kinds of models which seem to be required in order to promote state level leadership in program planning and development.

FISCAL CONTROL OVER PROGRAM PLANNING AND ADMINISTRATION

Few states have operating policies by which the State Agency uses funds under its direct control to stimulate and control occupational education planning and development throughout the state. The reasons for the general absence of such practices are both legal and practical.

In many states, current legislation specifies the policies by which construction and operating funds - especially state funds - are allocated to the support of occupational education. Thus the State Agency is prevented from exercising significant control through its own fiscal policies. In other states where funds are allocated in accordance with general administrative policy (as opposed to fixed legislation) the State Agencies seem to have refrained from implementing programs of leadership through control of funding simply from lack of perception of the options available to them and/or a recognition that the State Agency does not have at its disposal sufficient valid planning data on which to base decisions to fund or not to fund specific programs.

These problems are compounded by the fact that state funds for vocational education are frequently dispersed by the State Department of Education in accordance with formulae provided for the State Education Department as a whole, rather than through the State Agency for occupational education. Therefore, it is only the federal VEA money which is under the direct control of the State Agency - and the categorical grant requirements of these federal funds limit the control which the State Agency may effect through their distribution.

In addition to the limitations represented by state legislation which fixes funding practices, the implementation of programs of fiscal control by the State Agency is limited by the lack of formal quidelines concerning the areas in which the State Agency can legally exercise control. Both state and federal legislation is relatively vague with respect to the requirements a program must meet to qualify for funding. Even states which have secured such formal guidelines have done so at a level below what they might like to use for assessing program needs for purposes of program funding.

The criteria for establishing program funding priorities, which all states are forced to report in their state plans, are also subject to question. There is little evidence to show that the availability of vocational education programs - especially those offered through secondary education systems - have any effect on solving the problems of unemployment and high welfare rolls, yet these data must - by federal regulation - be incorporated in the state formula for assigning priorities to funding applications. The question of whether or not these criteria are actually used in program planning and funding at the state level has not been explored to date. However, it appears they have little effect since allocation procedures utilized in most states do not reflect the inclusion of such data in program evaluations.

If, in fact, program planning continues to be largely a local responsibility, then the most effective state fiscal policies will be those which either provide for maximizing the return to local agencies which do plan in accordance with state needs, or those which otherwise act to stimulate programs which meet these needs.

An example of the first type of state fiscal control would be a state policy to provide the greatest support to those programs meeting the greatest needs. The second type of control might be represented by a state's capability to free or not free the local agencies' own funds depending on the degree to which the local programs meet state needs. Policies of this type avoid the politically sensitive problem of transferring control to the State Agency, because local agencies retain the right to determine their own goals and objectives, while placing the State Agency in a position from which it can provide strong leadership. Even these approaches to funding, however, will require a significant increase in the State Agency's capability to gather and evaluate data on which to base program goals.

The effect of these policies can be further increased by a transfer of all funds which are eventually directed to vocational education to the control of the State Agency, rather than being allocated out of the general education fund.

COORDINATION OF CONSTRUCTION AND OPERATION FUNDING POLICIES

A problem of funding which has received little attention is the relationship between policies relative to construction and operating funding. Except those states in which vocational education is solely the responsibility of the State Agency, the total education cost - construction and operating - is shared between the state and local agencies. The way in which these funds are shared, however, can act to promote or inhibit the growth of occupational education programs. For instance, if the local district is forced to carry the total construction cost, while the state absorbs the operating expense, regions which, by virtue of low economic status, have the greatest need (and hence the least ability to support new construction) are forced into the difficult position of having to commit their own (non-existent) funds before they are given any state help. Policies which shift the burden of initiating new programs to such communities would logically seem to retard the growth of new programs. Similarly, the policies in which the state provided construction seed money would provide the greatest stimulation for new programs and place the State Agency in a position of leadership in promoting growth where and when needed.

MODELS FOR EDUCATIONAL PROGRAM FUNDING

There are three general types of models for educational program funding. At one extreme are those models in which local agencies are entirely responsible for the construction of new facilities while the state assumes the responsibility of program operating costs. At the other extreme are those states in which the states assume the total burden of construction, while the total burden of operating the programs falls to the local education agencies. In the broad middle ground there exists a great variety of models by which both the state and local education agencies share both construction and operating costs.

Two states - Michigan and New York - have introduced policies by which the state, through its funding policies, can promote and control the development of vocational education in the areas and programs in which greatest needs exist.

Michigan promotes the development of needed programs through a policy of supporting program operation on a "priority" basis; no state funds are used in construction. The State Agency receives from the state labor office a list of manpower needs priorities and allocates its funds to program support based on the priority of need for each program. Thus, programs having high priority are supported with more state funding reimbursement than those having lower priority. This policy was implemented so local planners would "make educational decisions rather than financial decisions."

At the opposite extreme from Michigan, New York has placed the operation of its programs in a form of competitive free market to be supported entirely by local agencies and has chosen to promote program development by using its federal funds to absorb the total cost of new construction. While planning and programming must still be initiated by local interests, the use of the "carrot" of free facilities represents a significant return for minimal investment.

In addition, New York disburses its state and federal funds in the form of project grants to local agencies for carrying out specific programs according to objectives and priorities set forth in the annual and long-range plans. These project grants require no matching funds and are based entirely on the project budget submitted by the local agency. Through both of these policies, New York is using the money under State Agency control as seed money to promote local activities in areas of need identified by the State Agency.

In a less direct form of control, Kansas uses its power of program approval - in combination with the local agency's own money - to promote needed programs. Kansas' local education agencies are permitted a 2 mil tax which may be banked and stored up for use in offering approved vocational programs. Under current legislation, this money can only be used for vocational education programs. Since most local agencies have created such bank accounts, the State Agency can influence the creation of needed programs (and prevent the development of unneeded programs) by exercising its power of program approval.

These instances of state leadership provided through control of funds are, however, unusual. More commonly, state funds for construction and program maintenance are disbursed according to either legislation or fixed policy. The characteristic of such policies are discussed in the following sections.

Financing New Construction

In almost all states, new construction is financed by some form of bond issue - although the form this bonding takes varies greatly from state to state.

In several states, like Massachusetts, Ohio, and California, which provide for a separately constituted legal agency to deliver vocational education, bond issues must be passed by each of the towns participating in the district. The amount of each town's indebtedness is usually provided for in the articles by which the district was created, and is most commonly based on each town's allocation of student stations.

In Massachusetts, regional schools exist as separate legal entities having the right to incur debt. Under the Massachusetts formula for reimbursement for construction, the school district must - through a vote of the member towns - incur debt in the total amount of new construction. Fifty percent of this cost is then reimbursed to the school system in semi-annual installments as construction proceeds. In Massachusetts, the amount of each town's bonding indebtedness is usually computed on the basis of the percentage of the total number of stations in the new school which are allocated to each town. This indebtedness is then translated into tax rates according to individual tax formulas.

In Ohio and California, bond issues are paid off with a uniform millage assessed on all participating districts. Under the joint-district legislation provided in these states, individual districts have the right to withdraw from the joint district for purposes of funding operation costs, but bond obligations remain unless excused by a vote of the other participating districts.

In some states, such as Florida and Ohio, the state maintains a construction bond pool which is available to finance the state share of construction, and the local agency is required only to pass bond issues in the amount of the local share.

In North Carolina, a state in which the local agencies assume the total burden of construction, the local agency is forced to pass a bond issue for the entire amount of the new construction.

Even in those instances in which construction costs represent shared investments, there exist several arrangements for cost sharing. In Kansas and Michigan, both of which reimburse 50% of construction costs, the total amount of reimbursement comes from VEA funds. In Massachusetts, on the other hand, state legislation requires that all school construction costs be reimbursed in the amount of 50% from state funds. (An additional 10% is now reimbursed out of federal funds, but this is policy and not mandated.)

In Connecticut, a state in which schools are owned and operated by the State Agency, the state legislature must first vote to include the bond requests in a total bonding referendum which is then put to the voters in total.

Kansas' plan for the financing and operation of vocational facilities represents an unusual model in several respects. Kansas provides for neither state reimbursement for facility construction nor for joint ownership of new facilities. It does, however, provide for construction of new facilities by one of the member towns in a district and for reimbursement of up to 50% of the construction cost cut of federal dollars. However, the unusual feature of Kansas' program is that legislation allows each school district to collect a 3 mil tax for construction which may be put in savings accounts and used when the district has saved enough for the required facilities. This money may be used either in replacement of, or in addition to, bond issues for construction.

Further, since Kansas legislation requires that only one school system own new facilities, provision has been made in the legislation for school systems to be so structured that one system pays all construction costs while the other participants absorb all related operating costs. Operating expenses are then reimbursed to those districts paying for program operation (25% of total operating expenses at the present) while construction expenses are reimbursed to the sponsoring school system at the rate of 50% (from VEA funds).

Ohio and Minnesota have similar provisions for facility ownership by a single school system within a joint vocational district, although in these states construction costs are absorbed in the operating expenses allocated to all school systems participating in the jointure.

A major exception to the use of bonds to finance school construction is found in New York. As previously discussed, New York chose to use its funding powers to promote occupational education through the use of seed money. The most important aspect of this policy has been its use of federal vocational education funds to absorb totally the cost of new facility construction.

Financing Program Operation

Because of the many different models for school system cooperation in the planning and delivery of occupational education, the problems of financing program operation must be considered from two perspectives - the state/local distribution of funds, and the allocation of expenses to participating local agencies.

State/Local Relationships

In most states the models by which operating expenses are shared between the local agencies and the state are the same for occupational education programs as for general education. These models range from flat grants based on head count and average daily attendance statistics (California), to cost sharing based on a fixed percentage of operating costs (Kansas and Massachusetts). In other states, the state reimburses according to a statewide salary schedule (Alabama and North Carolina) or a fixed-grant system based on FTE, teachers or other expenses (Ohio). Since the characteristics of each of these models have been thoroughly treated in the general education literature, no attempt will be made to analyze them here.

There are a few areas in which the State Agency has an opportunity to allocate funds according to a formula unique to its policies. In most states these funds are limited to the federal VEA "set aside" funds for disadvantaged and handicapped. Procedures for allocating these funds are divided into those states, like California, which allocate such funds across the board through some form of equalization formula, and those states which, like New York, use these and other funds to make project grants according to priorities identified by the State Agency.

A few states, like Utah and Michigan, have separate special allocation formulae for vocational education. In Utah, federal funds are used to support local occupational education through a program of reimbursement for "added costs". Local agencies are required to prepare program budgets for all vocational programs - according to USOE codes. Then, for each program where costs exceed normal student costs or exceed funds received from other sources, the State Agency reimburses the local agency in the amount of the incremental costs.

Michigan, as discussed previously, funds programs on a priority basis with higher reimbursements being provided for programs having been identified as having highest priority in the state.

Funding Within Districts

When occupational programs are offered through separate area vocational schools which exist as separate, legally constituted districts, such school districts are normally treated the same as any other school district as discussed previously. The interesting problems occur when vocational education is provided through cooperative ventures which are not funded as separate districts and rely on the individual districts for support.

There are three major models for funding this type of system. They are:

1) funding provided by formula in the joint agreement by which the school district was established;
2) funding provided from the general operating budgets of the participating school systems; and
3) funding by local school systems through a form of tuition for students attending the vocational program.

Whenever these models for funding are employed, the occupational student is - for purposes of state reimbursement - considered to be a student in his home school system and the local school system receives state reimbursement according to whatever formula exists for the whole state. These funds are then disbursed to the vocational school under one of the following models.

Funding by Agreement - When the operating costs of an occupational education program are established by an agreement of the local education agencies, the agreement usually provides for both costs and instructional stations to be allocated to each participating school system according to some fixed schedule, as in Massachusetts (see page 74). A special case of this model is represented by the financing program in Kansas. Since new facilities in Kansas must be owned and operated by a single school system (rather than joint ownership by the participating systems), provision has been made for agreements by which the system owning (and paying for) the facility contributes nothing toward the operating expenses. These expenses are then prorated over the other school systems in such a way that the other systems contribute, through payment of operating expenses, an amount equal to the contribution made by the local sponsoring agency for construction costs. Since construction bond payments obviously continue until the bonds have been retired and represent a fixed expense, a legal agreement between the participating school systems is essential to assure that the sponsoring agency will not be stuck with both construction and operating costs should the other systems send no students to the school.

Funding From General Operating Budgets - When occupational education is provided through contract services (as in Ohio), through a joint operating agreement (as in Minnesota), or any other arrangement not including a separate legal entity, each student is considered to be a full-time student in his home school district. Therefore, all costs associated with his education are treated as general operating costs incurred by the school system. With the exception of Kansas, in which local agencies may levy a special tax for occupational education, no states now have the provision for special, separate taxes for occupational education services.

Funding Through "Tuition" - In New York, the BOCES centers exist as separate entities with no legal ties to the school systems in the districts they have been planned to serve. Under such arrangements, operating expenses are covered through a form of tuition paid by the local school systems on the basis of the number of students who attend the BOCES. This arrangement places the "home" school in the position of a contractee. The amount of "tuition" charged is dependent on the number of students over whom the total operating expenses may be allocated, and, since there is no requirement for school systems to send students to the BOCES, there is no charge to a system which sends no students.

This mode of operation has several clear advantages - from the perspective of the client if not the administrator. Since students are likely to attend the BOCES only if the BOCES offer programs which are realistic in terms of student interests and needs, the BOCES facility does not have a guaranteed source of income and is forced to "compete" with the sending schools for students. Therefore, it is forced to provide more relevant offerings and a total program which is attractive to its prospective clients.

The problems facing the BOCES administrator are further complicated by the fact that New York State - like most states - provides for the payment of tuition to proprietary schools for providing occupational education only if such schools can offer equivalent programs at a lower cost than the public school system. Because of this provision, the BOCES must offer programs which are economically attractive to the administrations of the sending schools as well as educationally attractive to the prospective students.

7: FACILITY PLANNING

In current occupational education planning, significantly greater effort seems to be spent on planning the response to new program needs than on seeking a clear definition of what these needs are. This observation is reflective of the a priori assumption by most administrators and school committees that education can only take place in the school building.

It has only been recently that alternative locations and types of instruction - as well as new types of buildings and building design methods - have been viewed as valid responses to educational needs. However, with this change has come an increasing realization that a new building is not THE solution but is merely one of the many resources which are available to respond to the problem of delivering adequate education and occupational preparation. Part of the cause for this trend has been the increased importance attached to non-institutional learning experiences (co-op programs and the like), and the growing interest in the cluster concept of educational planning. The first of these practices has forced educators to re-evaluate the relationship between experiences which can be offered most effectively in school laboratories, and those which should be provided in industrial/commercial settings. If such approaches to education continue to grow in significance, major changes in laboratory design are likely to come. This shift in thinking has been accompanied with a renewed realization that the purpose of planning is to respond to a problem and that the problem of planning a new building represents only a sub-component of this larger problem. Under such conditions the purposes and the process of planning are greatly expanded, thus calling for a change in the perspective which most educational administrators hold regarding the functions of planning.

In terms of division of responsibility, facility planning is almost exclusively the contribution of the local education agencies, with some guideline and limitation often imposed by the State Agency. Because of the emphasis on local responsibility for facility planning, however, the construction of new facilities has become almost the sole response to occupational education needs at the local level. Of the planners and educators queried during this study, none had participated in an occupational education planning process which was not directed toward the construction of a new facility - in spite of the fact that federal legislation has repeatedly provided for and encouraged the use of non-institutional resources, proprietary school industrial locations (through co-op and work study programs), and facilities acquired on short- and long-term lease in response to the problem of providing laboratory instruction space.

In some cases, State Advisory Councils have specifically *recommended* the use of proprietary schools and the expansion of cooperative programs for offering occupational education, but both these practices remain secondary issues in most planning practices - so much so, that many educators have rejected the use of such resources as "unworkable" and "not acceptable in this state" - in spite of specific provisions in the State Plans for the use of private schools. In one state the State Agency for Occupational Education was singularly unreceptive to the use of state funds for the development of a major cooperative education program as part of the *initial* plan - although it was willing to accept such an approach to program expansion *after a facility was constructed as the basic response to educational requirements*.

While the practice of using the development of a building as the *initial* objective of the planning process is not inherently bad, the practice of considering the building as the sole solution to needs is detrimental from two perspectives.

First, when the building is to be the sole response to occupational educational program needs, the budget constraints imposed on the building - usually estimated early in the planning process - limit the number of programs and stations which may be provided in the new program. Few planners ever look beyond the construction cost of a new building to consider the operating cost of the proposed programs or to compare the costs associated with the use of alternative resources with those which will be incurred in operating a new building. Thus, limitation of the planning objective to the "new construction" option fails to give due consideration to all costs associated with new program offerings and, in fact, inhibits the use of alternative resources which could result in a lower total program cost.

The second limitation represented by the a priori election of new construction is that the new building is usually considered as a "stand alone" entity and not as a part of a total educational system. There are many reasons why new construction is appropriate as the initial step in developing a new program, but failure to identify alternatives at the time new construction is planned ignores the relationship which could be developed between programs contained in the building and other resources available in the community. For instance, if advanced consideration were given to the future configuration of a total system, a region in which there are many proprietary electronics schools may elect not to provide an electronics laboratory in the new building. Rather it would design around the availability of other resources.

The following topics evaluate some of the specific design and planning limitations represented by current legislative, architectural, and pedigogic practices.

LIMITATIONS ON THE PROCESS OF CONSTRUCTION PLANNING

The efficiency and effectiveness of the local planning effort is often constrained by historical practices - both traditional and legislated - which affect the building plan and the choices of programs to be offered. The three major problems inherent in such planning are:

1) limitations represented by traditional instructional philosophies and building programs;
2) limitations represented by "guidelines" relating to space and station allocation; and
3) failure to relate program costs and benefits in the allocation of stations to programs.

Limitations of Design

Vocational education programs, prior to the passage of the 1963 Vocational Education Act, were almost exclusively located in separate, self-contained "trade schools". As a result, the expansion of vocational education in the sixties was focused initially on the construction of self-contained vocational-technical schools. There are two basic reasons for this practice. First, the expansion of existing facilities to provide the five occupational programs required for funding as a vocational school under the Act was often impractical, in addition to which there was often great resistance on the part of the academically oriented educator to incorporate occupational education in their programs. Second, most administrators of traditional schools were initially unwilling to participate in the development of joint, shared-time educational programs which would make the development of occupational resource centers feasible. The result was that, until recently, most new construction has provided both laboratory and class instructional space for all students.

Recent changes in legislation combined with a demand for services which has outstripped most communities' ability to build separate specialized schools has resulted in a number of new approaches to providing facilities for occupational education.

Generally speaking there are three different facility options for occupational education. These facility options are, however, organizationally united in many different ways to provide for a variety of program configurations. The three facility options having the greatest significance are:

1) the comprehensive high school;
2) the skill center; and
3) leased or rented facilities.

The Comprehensive High School - The comprehensive high school (although the model applies equally well to the "area school", community college, or any other program) represents a self-contained educational facility in which students spend their entire educational day. This type of facility is by far the most common facility type. It is the traditional organizational model, stemming from the days of the separate self-contained trade school, and it is the easiest to operate, since the students' entire educational program is under the administrative control of one director.

The comprehensive high school approach is now most commonly found in the "area vocational school" - a school which is usually built specifically to offer vocational education programs. This model is, however, becoming increasingly more common as existing high schools are adding facilities for occupational education so that their students do not have to move to another "different" school for their vocational education. In addition, this model provides all students with an opportunity to participate in some measure of occupational education.

A special case of the comprehensive high school is represented in the Regional Occupational Program's (ROP) found in California and Ohio. In these states, several school systems may band together to offer cooperative occupational education programs through the shared use of facilities in comprehensive high schools in each district. Under these programs no new "area" schools are constructed. Rather, students from each school are bused to other comprehensive high schools in the system offering the programs of interest.

A second unusual case of the use of a comprehensive facility was found in the White Bear Lake Intermediate School District (Minnesota). In this program both the high school and post-secondary technical institute programs are offered in a single, jointly-administered facility. While this type of joint occupancy could be offered in any state, the administrative separation of the two State Agencies responsible for such programs and the strong forces of local agency autonomy has prevented such joint planning in most areas.

The Skill Center - The skill center is a separate facility in which only the occupational skill component of the students' educational program is taught. For all other components of his educational program, the student studies in his home high school. Major skill centers are now in operation in California and New York, and are currently being planned in Denver and Boston.

Under the skill center concept (skill centers are known variously as Occupational Resource Centers, Regional Occupational Centers, Skill Centers, Career Centers, etc.), students usually spend half their time in the home high school and half their time in the skill center. Schedules for school/skill center attendance vary from shared half days to alternate days and alternate weeks.

New York State, whose BOCES system represented the earliest major application of the skill center approach, has had an opportunity to experiment with several attendance patterns (including a year of vocational study at the BOCES with no parallel academic study at the home school), and has found (qualitatively) that the half-day sessions seem most appropriate. In rural areas, however, half-day schedules are generally inappropriate because of transportation problems. As a result, the greatest interest in the development of skill centers is in urban areas.

Several states have developed a form of quasi-skill center by encouraging cooperation between secondary and community college programs. In Kansas, Iowa, and Michigan, the State Agencies have acted to minimize duplication of effort by using one laboratory for all students desiring a given program. Usually, though more by coincidence than design, a community college which is a comprehensive educational facility opens its laboratories to high school students who then attend the community college as though it were a skill center.

Leased and Rented Facilities - The availability and use of leased and rented facilities runs the gamut from the rental of individual business laboratory facilities (such as the rental of a gas station or beauty salon), through the rental of a building which the school renovates and equips as it requires, to a fully equipped facility designed and built specifically for the school but provided on a lease arrangement.

The first of these options is a relatively common option which is legally available in almost all states and is, or has been, in use in most.

The rental of facilities which the school renovates and equips to its own needs is also a common facility option. It is, however, most commonly employed as a temporary option which provides the school with operating space while new facilities are being planned and constructed.

A third rent/lease option is represented by a model in which a private developer constructs a facility specifically for occupational education and then rents this facility to the school system. While this model is legal in all states where any other form of facility rental can be practiced, there are few instances in which private agencies have been willing to undertake the investment in facilities for such a purpose. The limitations in most states have been statutory provisions which limit the right of a school committee to sign leases of more than from one to three years. The only exception to this rule appears to be in the state of Minnesota.

While leased or rented facilities and cooperative programs may be available for some of the needed vocational programs, some new construction will probably be required for any major new occupational offering. There have been several curriculum and building design practices, however, which have lead to inefficient use of the construction dollar.

In addition to the duplication and wastage of space which results from the construction of self-contained schools, secondary vocational schools have tended to perpetuate the practice of designing their laboratories to be independent, self-contained laboratories. Thus, since students in sheet metal require instruction in welding and drafting as well as sheet metal, welding stations are included in the sheet metal shop and drafting is taught in the sheet metal classroom by the teacher provided for sheet metal. This common practice results in enormous inefficiencies in the use of available resources and adds substantial sums to facility construction costs. Fortunately this practice is limited to secondary and some of the older post-secondary institutions.

For the most part, the community colleges have adopted the concepts of higher education and have planned their occupational laboratory facilities as shared resources. Such practices have resulted in substantial reductions in staff and equipment resources and, not surprisingly, have resulted in increased flexibility in program offering.

An additional problem of the independent self-contained laboratory is the great waste of space which accompanies reduced enrollments in individual programs. In most states, vocational educators have resisted the concept of shared spaces in occupational laboratory design. However, two schools, the Minuteman Regional Vocational Technical School (Massachusetts) and the Oakton Community College (~~Ohio~~ Ill.), have recently been designed around the concept of the open space "occupational library" which shows significant promise for promoting both educational and facility flexibility.

Space and Station Standard Limitations

About half of the State Agencies now have some form of guidelines on such issues as the space required for each laboratory, the allocation of stations to program groups, or maximum net (or gross) square feet per student. Such guidelines severely constrain planning in two ways.

First, local educational plans (that is, facility plans) should be based on local program objectives. Where "standard" programs are to be taught, a "standard" laboratory may be adequate. But where the local planners can identify special needs or wish to develop a special program, "standard" requirements are a severe hindrance to planning. For example, in one part of a state it may be feasible to develop an extensive cooperative education program in auto mechanics. Under such circumstances, the local planners may wish to plan an abbreviated laboratory experience in the school and shift the bulk of the training program to industrial locations. But if the state has fixed laboratory design standards, such flexible planning is difficult, if not impossible, to implement. Similarly, when local planners wish to consider a shared activity loft space for instruction, leading to a significant savings in construction space, "standard" laboratory guidelines impede the realization of such economies.

The second type of limitation is represented by guidelines, such as those in Illinois, which specify the maximum average gross square feet of construction per student. These are perhaps the greatest hindrance to planners because they represent severe limitations on the programs which may be planned. For instance, if a state has a limitation of an average of 165 square feet per student for the total building, the planners are severely limited if the local manpower picture calls for a large number of auto mechanics, machine workers, construction workers and the like whose laboratories are frequently designed on the basis of from 175 to 200 square feet net per student.

A similar problem exists where limitations are imposed on the percent of stations which may be allocated to business programs or trade and industry programs. Since these states often place limitations on both the maximum and minimum percent of total stations which may be allocated to such programs, it may be very difficult for local planners to develop the most appropriate and economic response to local demands.

Facility/Program Relationships

One of the most frequent cited facts of occupational education programs is that they cost substantially more than academic programs - often more than twice as much when all related costs are considered. While in general this is true, few planners ever take account of the fact that there is a wide variation in the construction and operating costs of alternate occupational programs. These variations could have a significant impact on the programs chosen for a school and the total cost of the educational program.

Equally important is the impact of cost-benefit and cost-effectiveness (or, in general, cost-utility) of program offerings. Current planning procedures assume that all programs exhibit the same cost-utility, and no one program is ever viewed as more important than another. As long as this assumption of equal cost-utility is applied, the traditional process of station allocation is valid. However, there are significant differences in the costs and the "importance" of different programs, and this difference should be taken into account in the planning process.

For example, the construction and equipment cost of a machine shop may range as high as $400,000 while an electrical shop may be only $110,000 and a graphic arts laboratory only $80,000. It is readily apparent that the decision to include a machine shop in a new program results in a substantial reduction in the number of stations which may be provided - and the number of students which may be served - in the school as a whole.

Recognizing that alternate program/enrollment mixes may lead to final plans having widely different cost-utility factors, it appears that the most desirable approach to the problem of program/enrollment planning would be based on the derivation of cost-utility measures for each program under a variety of different conditions and a selection of the mix of programs which yields the greatest response on one or more of the objective measures. Thus, the planner could, for example, fix the total enrollment and allocate this fixed enrollment to different programs until he finds the mix which yields the greatest total utility - whether measured by economic return or some parameter describing the school's response to the labor market.

There are many planning objectives other than enrollment and manpower projections which may be important in planning the total program. For instance, given that there is a high demand for a program with a relatively high cost per student and another program for which there is medium demand and low cost per student, which should be offered? The answer to this question depends on the goals of the school system. If the high cost program is also characterized by high probability of placement at a high salary, the school whose objective is high social economic return may select it over a program with low cost and medium placement and salary probabilities. On the other hand, a school whose objective is to offer occupational education to the greatest number of students within a fixed budget may opt for a number of low cost return programs which, collectively, meet their objective of high capacity.

Another trend which is likely to affect facility planning is the growth of the concept of "cluster" curricula. The "cluster" curricula will force changes in laboratory design by breaking the barriers which separate traditional programs. For instance, separate programs in sheet metal-welding-machine shop may be combined in a single Metals Processing Laboratory. These laboratories will produce significant economies resulting from the use of shared instructional stations. But such practices can only come about through a relaxation of laboratory space standards, a limitation which exists in many states. They will also require significant changes in teaching methods and curriculum to reflect the "team teaching" nature of such programs.

Possibly the greatest change in program and facility planning will come about as a result of the development of new tools for the cost-utility analysis of program demand. The application of such tools will play an important role in both the selection of programs to be offered by a school system, and the way these programs are distributed to alternative instructional settings. Before such tools can be implemented, however, much more data on program costs and much clearer definitions of program benefits will have to be derived.

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